



Stationary Internal Combustion Engines

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Stationary ICE

- **Applicable Regulations**
- **Permitting Issues**
- **Information Sources**

Applicable Regulations

- **40 CFR Part 63, Subpart ZZZZ**
 - NESHAP for Reciprocating Internal Combustion Engines (RICE NESHAP)
- **40 CFR Part 60, Subpart IIII**
 - NSPS for Stationary Compression Ignition Internal Compression Engines (Diesel)
- **40 CFR Part 60, Subpart JJJJ**
 - NSPS for Stationary Spark Ignition Internal Compression Engines (Gasoline, NG, LPG)

- **History**

- June 15, 2004 Final Rule (69 FR 33473)
 - Existing and New/Reconstructed SI and CI RICE >500 bhp at [Major Sources](#)
- January 18, 2008 Final Rule (73 FR 3568)
 - New/Reconstructed SI and CI RICE at [Area Sources](#)
 - New/Reconstructed SI and CI RICE ≤500 bhp at [Major Sources](#)
- **March 3, 2010 Final Rule (75 FR 9648)**
 - Existing CI RICE at [Area Sources](#)
 - Existing CI RICE ≤500 bhp at [Major Sources](#)
 - Existing non-emergency CI RICE >500 bhp at [Major Sources](#)

Area Source - source that has the potential to emit less than 10 TPY of an individual hazardous air pollutant (HAP) or less than 25 TPY of combined HAP

- **Applicability**

- Stationary **reciprocating** internal combustion engines (RICE)
- Applies to both **Major** and **Area** (minor) sources of hazardous air pollutants (HAP)
- All RICE are affected sources even if they have no applicable requirements
- Considers source status and engine size for determining “Existing” vs. “New/Reconstructed”

| Source Status | Engine Size | Construction or Reconstruction Date | Classification |
|---------------|-------------|-------------------------------------|----------------|
| Major | >500 bhp | <12/19/2002 | Existing |
| | | ≥12/19/2002 | New |
| Major | ≤500 bhp | <6/12/2006 | Existing |
| | | ≥6/12/2006 | New |
| Area | All | <6/12/2006 | Existing |
| | | ≥6/12/2006 | New |

- **Applicability**

- Definition of “Construction”
 - **Not** the same as the date manufactured
 - Date initially installed by initial owner/operator (O/O)
 - Applicability for “used” engines not affected by relocation or ownership change (unless reconstruction occurs)
- Definition of Reconstruction
 - Fixed capital cost of replacement components >50% of fixed capital cost to construct a comparable new source
 - Change in emissions of HAP is irrelevant
- Applicability of requirements varies by subcategory
 - Major vs. Area
 - “Existing” vs. “New/Reconstructed”
 - Brake Horsepower
 - Ignition Type (Compression vs. Spark)
 - Usage (“Non-emergency”, Emergency, Limited Use)
 - Air-to-Fuel Ratio (Rich-burn vs. Lean-burn)
 - 2-stroke vs. 4-stroke
 - Fuel type

- **Applicability**
 - Some RICE must meet the RICE NESHAP by meeting requirements of NSPS, Subpart III (CI RICE) or JJJJ (SI RICE)
 - All new or reconstructed RICE at **Area Sources**
 - The following new or reconstructed RICE categories at **Major Sources**
 - 2SLB <500 bhp
 - 4SLB <250 bhp
 - 4SRB <500 bhp
 - RICE ≤500 bhp burning landfill/digester gas
 - Emergency or limited use RICE ≤500 bhp
 - CI RICE ≤500 bhp
 - If RICE does not meet applicability criteria of NSPS, no requirements would apply

- **Compliance Dates**

Major Sources

| Category | Size | Compliance Date |
|------------------------|----------|------------------|
| New/Reconstructed RICE | >500 bhp | August 16, 2004 |
| Existing 4SRB SI RICE | >500 bhp | June 15, 2007 |
| New/Reconstructed RICE | ≤500 bhp | January 18, 2008 |
| Existing CI RICE | Any Size | May 3, 2013 |

Area Sources

| Category | Size | Compliance Date |
|------------------------|----------|------------------|
| New/Reconstructed RICE | Any Size | January 18, 2008 |
| Existing CI RICE | Any Size | May 3, 2013 |

Note: Engines constructed after their applicable compliance date must comply with applicable requirements upon startup.

- Requirements for Existing CI RICE (May 3, 2013)
 - Emission standards
 - Applicability
 - Non-emergency CI ≥ 100 bhp ([Major Sources](#))
 - Non-emergency CI > 300 bhp ([Area Sources](#))
 - Limitation/Reduction of CO (surrogate for reduction of HAP)
 - Work/Management Practice Standards
 - Applicability
 - ALL emergency CI
 - Non-emergency CI < 100 bhp ([Major Sources](#))
 - Non-emergency CI ≤ 300 bhp ([Area Sources](#))
 - Requirements
 - Change oil and filter at specified intervals
 - Inspect air cleaner at specified intervals
 - Inspect hoses and belts at specified intervals
 - Minimize engine's time spent at idle
 - Minimize startup period (≤ 30 minutes)

- **Additional Requirements for Existing Emergency CI RICE (May 3, 2013)**
 - Applicability
 - Existing emergency CI RICE ≤ 500 bhp ([Major Sources](#))
 - Existing emergency CI RICE ([Area Sources](#))
 - Install non-resettable hour meter
 - Operational limits
 - ≤ 100 hours per year for maintenance checks and readiness testing (MC/RT)
 - ≤ 50 hours per year for non-emergency operation (counts towards 100 hours allowed for MC/RT)
 - No limit for emergency situations

- **What's Next?**
 - EPA to propose standards for the following no later than August 10, 2010
 - Existing SI RICE at **Area Sources**
 - Existing SI RICE ≤ 500 bhp at **Major Sources**

- **Applicability**
 - Stationary compression ignition (CI) internal combustion engines (ICE)
 - Reciprocating and Rotary
 - Does not include combustion turbines
 - Considers date of manufacture as well as construction date
 - “Construction date” is the date the engine is ordered by the owner/operator
 - Dates
 - Constructed after July 11, 2005 **and** manufactured after
 - April 1, 2006 (excluding fire pumps)
 - July 1, 2006 (fire pumps)
 - Reconstructed or modified after July 11, 2005

NSPS, Subpart JJJJ (SI ICE)

- **Applicability**
 - Stationary spark ignition (SI) internal combustion engines (ICE)
 - Reciprocating and Rotary
 - Does not include combustion turbines
 - Considers date of manufacture as well as construction date
 - “Construction date” is the date the engine is ordered by the owner/operator
 - Dates
 - Constructed after June 12, 2006 **and** manufactured on or after:
 - July 1, 2007 for engines ≥ 500 bhp (excluding lean-burn engines $500 \leq \text{bhp} < 1,350$)
 - January 1, 2008 for lean-burn engines $500 \leq \text{bhp} < 1,350$
 - July 1, 2008 for engines < 500 bhp
 - January 1, 2009 for emergency engines > 25 bhp
 - Reconstructed or modified after June 12, 2006

Permitting Issues

- **All RICE are affected sources under RICE NESHAP**
 - RICE can no longer be considered an insignificant source under Title V
 - Any RICE constructed at a Title V major source will require a construction permit
- **All engines require a case-by-case permitting determination prior to construction**
- **Engines subject to numerical emission standards that utilize a control device will likely require a construction permit**

- **EPA Technology Transfer Network**
 - Available documents:
 - Proposed and Promulgated Rules
 - Fact Sheets and Background Documents
 - Guidance/Implementation Documents
 - Compression Ignition NSPS
 - www.epa.gov/ttn/atw/nsps/cinsps/cinspspg.html
 - Spark Ignition NSPS
 - www.epa.gov/ttn/atw/nsps/sinsps/sinspspg.html
 - RICE NESHAP
 - www.epa.gov/ttn/atw/rice/ricepg.html

Start-up, Shut-down and Malfunction Junction

Wes Thornhill, Chief
Industrial Chemicals Section
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- MACT Start-up, Shut-down and Malfunction exemptions vacated.
 - History of SSM
 - What Happened
 - Who's affected
 - EPA and Alabama positions
 - What's next

- The basic issue is “Should excess emissions during SSM events automatically be considered violations, even when rules have historically allowed exemptions when these emissions were unavoidable?”

- MACT – Maximum Achievable Control Technology. Found in 40 CFR Part 63.
 - For sources that emit greater than 10/25 tons per year of Hazardous Air Pollutants

- SSM – Start-up, Shut-down and Malfunction
 - §63.6 (f)(1) stated
 - “The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown and malfunction, and as otherwise specified in an applicable subpart.”

- SSM – Start-up, Shut-down and Malfunction
 - §63.6 (h)(1) stated
 - “The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction and as otherwise specified in an applicable subpart.”

- Facilities were required to develop and implement SSM plans.
 - Good – Permittees wrote their own plans
 - Bad – Permittees incur liability for failing to follow their own plans

- SSM rules in existence now require a plan, but facilities are no longer required to follow them.
- EPA stated “sources will have every incentive to follow the plans if appropriate, or face additional scrutiny if the plans are not followed. At any event, sources are required to minimize emissions regardless...” (4-20-2006)

- On December 19, 2008, the DC Circuit Court vacated the April 20, 2006 rule.
 - The court found that SSM exemptions were in violation of the Clean Air Act requirement that standards apply continuously.
 - 63.6(f)(1) and (h)(1) specifically are vacated.

- On July 22, 2009 EPA issues ‘clarification’ letter.
 - Only those MACTs which DIRECTLY incorporate 63.6(f)(1) and 63.6(h)(1) are affected.
 - However, EPA acknowledges that “the legality of such source category-specific SSM provisions may now be called into question...”

- Affected Subparts
 - R, S, T, X, Y, GG, II, KK, LL, MM, CCC, III, LLL, NNN, RRR, TTT, VVV, XXX, AAAA, JJJJ, RRRR, VVVV, YYYYYY, ZZZZZ, EEEEEEE, FFFFFFFF, GGGGGGG, HHHHHH, LLLLLL, NNNNNN, OOOOOO, PPPPPP, RRRRRR, TTTTTT, and YYYYYY
- Not affected, yet
 - The rest

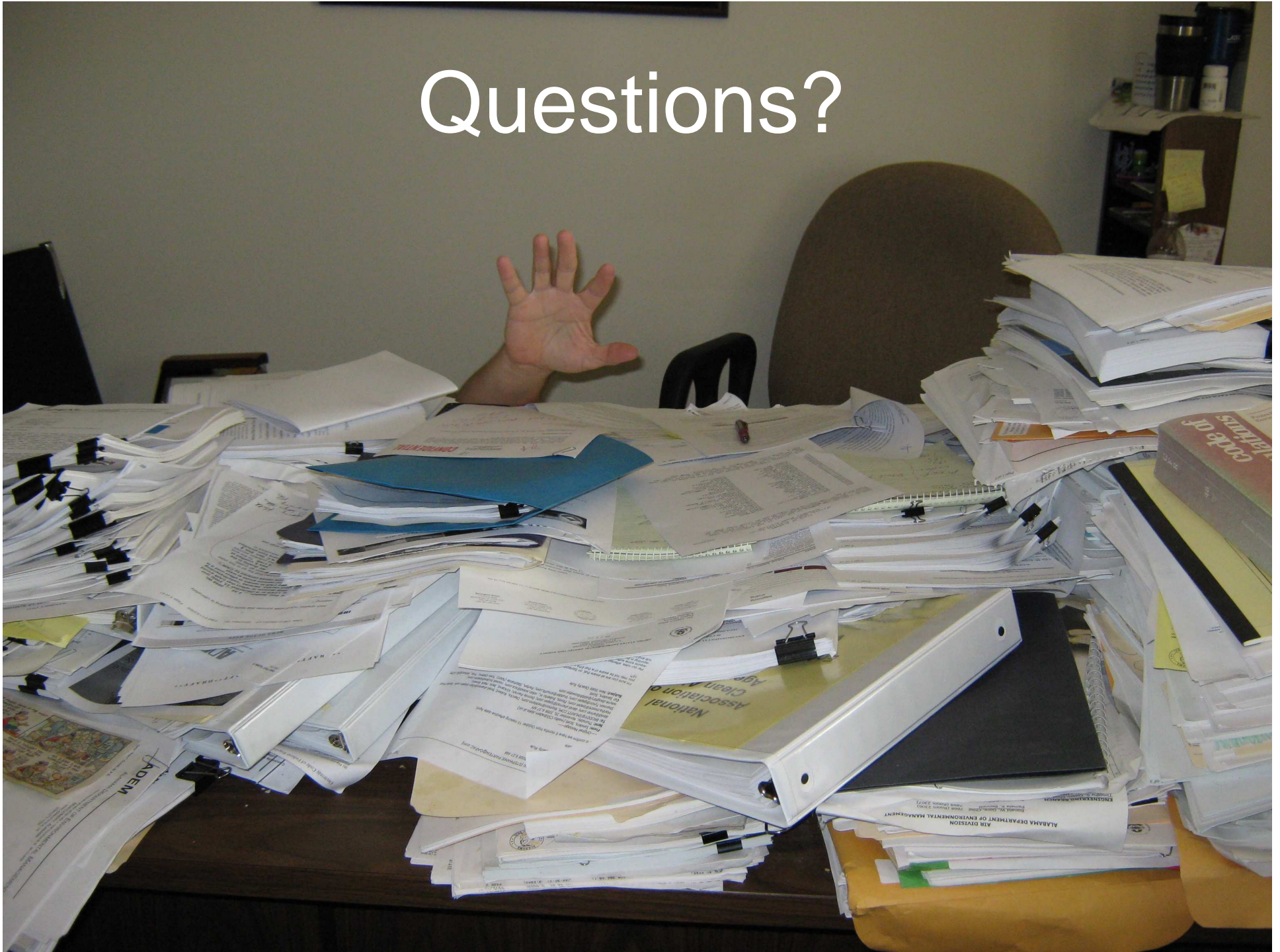
- What this means
 - For units subject to a listed MACT, you can no longer claim a SSM exemption when a monitoring standard is exceeded.
 - They ALL count.
 - Especially difficult for MACTs with a specific number or percentage of allowable excursions.

- Enforcement
 - ADEM will base its enforcement efforts on a case by case review of specific circumstances.

- The Future
 - Mandate made effective on October 16, 2009
 - An appeal petition has been filed with the U.S. Supreme Court.

- More detail can be found at
 - www.epa.gov/compliance/civil/caa/ssm.html

Questions?





Changes in Regulation and Permitting of Fine Particulate Matter

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- Types of Particulate Matter
- Changes in Measurement Methods
- Changes in Permitting

- PM – TSP – Particulates
 - Anything captured on a Method 5 filter
 - Pollutant of concern in older regulations
 - State Rules, NSPS
 - Particles greater than 10 microns no longer closely regulated

Types of Particulate Matter

- PM_{10}
 - Particulate Matter with diameter less than 10 microns
 - Consists of two types:
 - Filterable – Captured on filter during stack test
 - Condensable – Liquids/vapors that condense in the atmosphere to form particulates
 - Few specific regulations
 - BACT and air quality analysis during NSR review

Types of Particulate Matter

- $PM_{2.5}$ - PM_{fine}
 - Particulate with diameter less than 2.5 microns
 - Consists of three types:
 - Filterable – Captured on filter during stack test
 - Condensable – Liquids/vapors that condense in the atmosphere to form particulates
 - Secondary – Formed as a result of chemical reactions involving combustion gases in the atmosphere
 - Few specific regulations
 - BACT and air quality analysis during NSR review

Changes in Measurement Methods

- Modification of Test Methods 201A and 202
 - Proposed 3-25-2009
 - Test method for PM_{10} and $PM_{2.5}$
 - To be finalized ???
- Methods do not work for wet scrubbers
 - EPA recommends the use of Method 5 in these cases

- ADEM typically has allowed measurement of total particulate (Method 5) for demonstration of PM_{10} without condensable component.
- EPA's $PM_{2.5}$ Implementation Rule
 - Finalized May 16, 2008
 - Requires that, no later than January 1, 2011, condensables must be included in PM_{10} and $PM_{2.5}$ for emissions limitations and inventories

- All BACT/LAER limits for PM_{10} and $PM_{2.5}$ must include condensable emissions
- Any synthetic minor limitations to avoid NSR for PM_{10} or $PM_{2.5}$ must include condensable emissions
- Emission limitations must be enforceable
- Test Methods 201A and 202 would be required

- PM₁₀ Surrogate Policy
 - Established in John Seitz Memo 10-23-1997
 - PM₁₀ should be used as a surrogate for PM_{2.5} until technical difficulties regarding PM_{2.5} are resolved:
 - PM_{2.5} monitoring
 - Emission estimation
 - Modeling issues

- EPA's PM_{2.5} Implementation Rule
 - Finalized May 16, 2008
 - Preamble specifically affirmed the continuation of the PM₁₀ Surrogate Policy until such time as the necessary final elements to implement the NSR PM_{2.5} program are promulgated and in effect
 - Increments
 - Significant Impact Levels (SIL)
 - Significant Monitoring Concentrations (SMC)

- August 12, 2009
 - EPA Administrator Lisa Jackson granted a petition of a Title V permit based on, among other issues, the fact that there was no specific analysis to justify PM_{10} as a surrogate for $PM_{2.5}$
- February 11, 2010
 - EPA proposed a rule to modify the $PM_{2.5}$ Implementation Regulations to remove the PM_{10} Surrogacy Policy
- March 23, 2010
 - EPA issued interim guidance memo regarding modeling procedures for $PM_{2.5}$ until such time as EPA completes regulations regarding increments, SIL, and SMC

- If a project is significant under NSR for $PM_{2.5}$
 - Applicant must **EITHER** provide an analysis demonstrating that PM_{10} is an appropriate surrogate for $PM_{2.5}$ **OR** provide a BACT analysis for $PM_{2.5}$
 - Applicant must perform Air Quality Analysis to evaluate $PM_{2.5}$ projected impacts utilizing a case-by-case review of available information
 - EPA will evaluate sufficiency of PM_{10} surrogacy and Air Quality Analysis on an individual basis

- Finalized PM_{2.5} testing methods
- Emissions inventories
- Modeling background concentrations
- Significant Impact Levels (SIL) for modeling
- Significant Monitoring Concentrations (SMC)
- Increments

- New test methods and consideration of condensables for all new $PM_{10}/PM_{2.5}$ limits no later than January 1, 2011.
- PM_{10} surrogate policy effectively rescinded
- $PM_{2.5}$ Air Quality Analysis required, with full instructions on how to do to come later

Questions?



Phase I and Phase II MS4 Permits in Alabama

May 13, 2010
2010 ADEM Regulatory Update
Montgomery, Alabama

Chip Crockett

*Chief of Stormwater Management Branch
Water Division*

Alabama Department of Environmental Management

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Presentation Goals

- Review Draft MS4 Permit Requirements
- Provide Overview of where Alabama is in the MS4 Phase I and II Permits Renewal Process

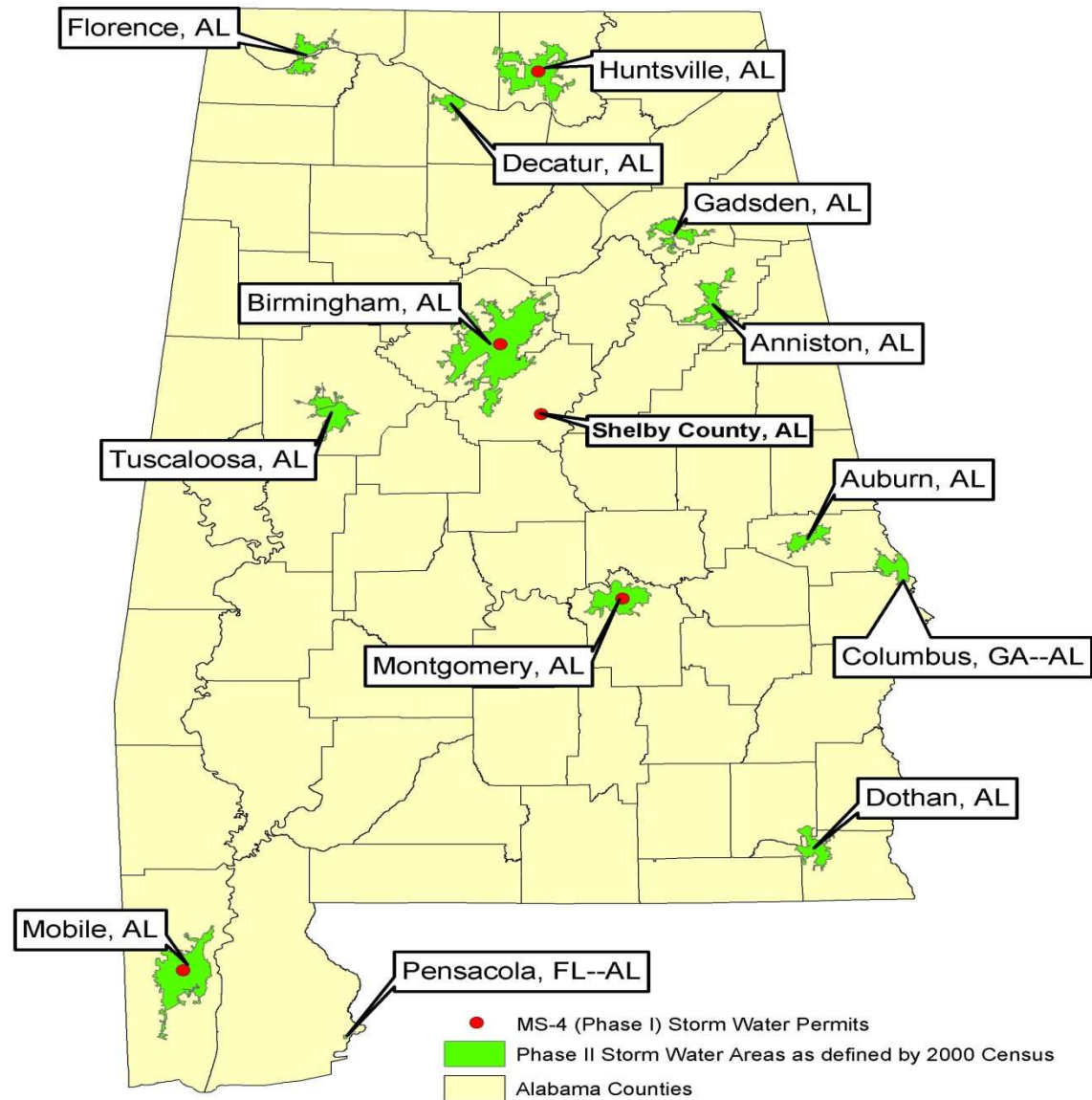


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MS4 Phase I and II

- MS4 NPDES Permittees are separated into two phases.
- Phase I Permittees are counties and municipalities that service a population of 100,000 or greater.
- Phase II Permittees are MS4s that service a population of < 100,000 and are located in an urbanized area as determined by the latest Census (only the portion that is within the UA is regulated) or is an MS4 designated by ADEM.

Alabama Storm Water Management Areas





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Key Elements of MS4 Requirements

- Stormwater Management Plan (SWMP)
- 6 Minimum Control Measures
 - Maximum Extent Practicable (MEP)
- Establish Measurable Goals for the 6 Measures
- Assess Effectiveness of the SWMP



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Minimum Control Measures

- Public Involvement/ Participation
- Public Education and Outreach on Impacts
- Illicit Discharge Detection and Elimination
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management in New Development and Redevelopment
- Pollution Prevention/ Good Housekeeping of Municipal Operations



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Alabama's MS4 Phase II General Permit

- March 9, 2008
 - Existing NPDES General Permit Expired
- Extensive discussions with EPA and stakeholders
- January 14, 2010
 - Draft permit public notice
 - Significant comments received



Summary of Comments

- Expanded Requirements and Costs of Implementation to the Municipality
- Reliance on State Program for Construction Stormwater
- Guidance provisions of Phase II included as permit conditions

- Revised Draft Permit to Notice May 2010
- Significant Changes from January Draft:
 - Some reliance on State construction stormwater
 - Less guidance as permit conditions
 - Clear, measurable, enforceable conditions
 - Post-construction stormwater management

- Phase I permit to be based on the Phase II
- Public notice drafts ± June 2010
- Phase I and II permits must be issued by September 30, 2010.

ADEM EPA Permit Improvement Guide

MS4 Permit Improvement Guide

- Released April 2010
- Guidance for 6 minimum control measures
- Suggested permit language
- Suggested Annual Report Form

- 40 CFR 123.44
- EPA gets 90 days to
 - review and comment on draft general permits; or
 - Object
- Objection must include:
 - State of reasons
 - Actions State must take
- State has 90 days to request a public hearing
- Exclusive authority to issue the permit

- Proposed ICR October 2009
 - Industry Questionnaire
 - MS4 Questionnaire
 - State Questionnaire
- FR Notice December 2009
- Stormwater controls for newly developed and redeveloped sites
- Enhancements to MS4 rules?
- Goal for Final Rule in November 2012



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Questions?

Chip Crockett

Chief of Stormwater Management Branch

Water Division

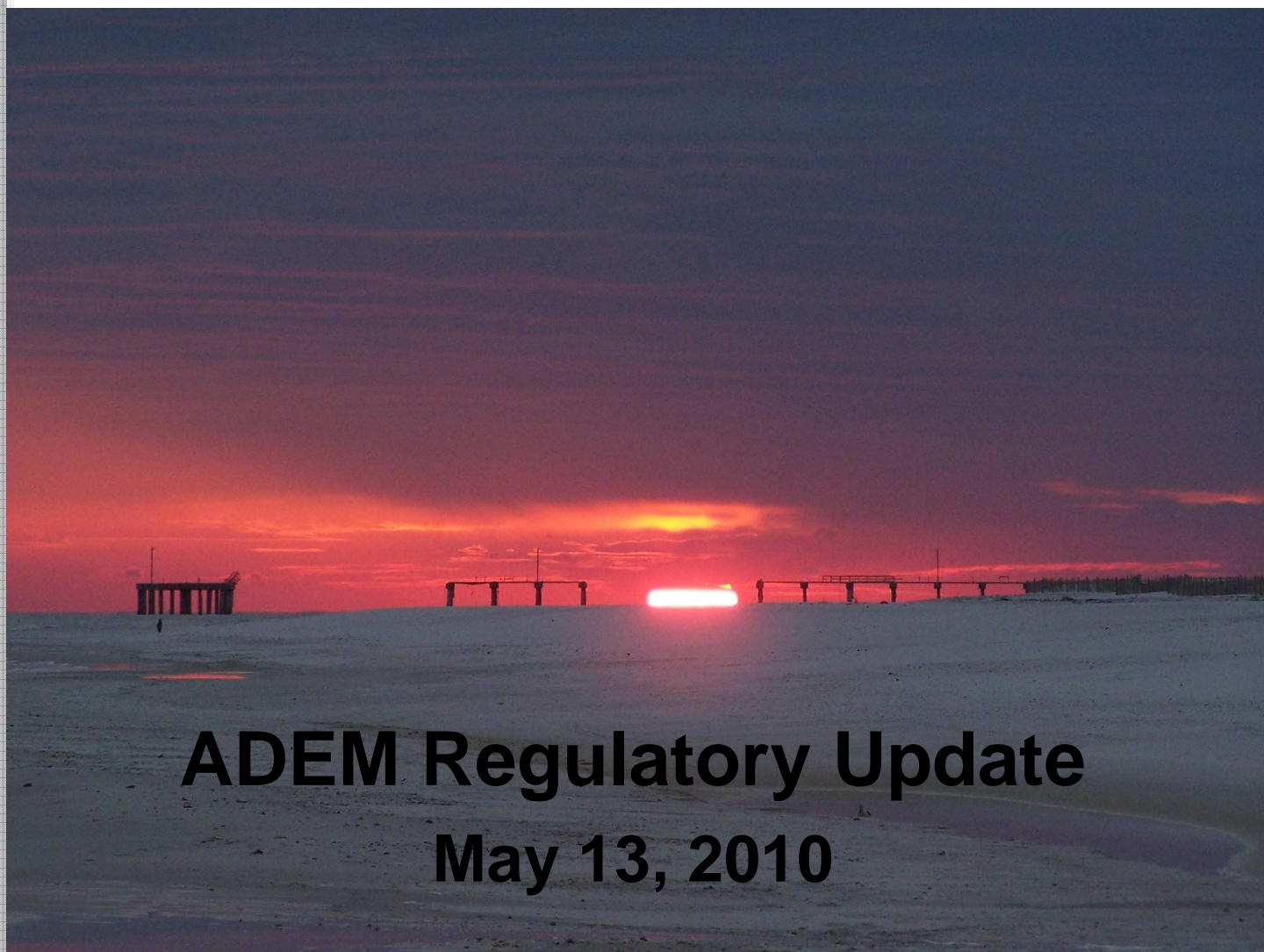
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Bacterial Indicator Changes & TMDLs



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ADEM Regulatory Update
May 13, 2010

- **Bacterial Indicator Changes**
 - EPA guidelines
 - Why Now?
- **TMDL Update**
 - TMDL Program Accomplishments
 - Current Projects
 - Plans for the future

- **Freshwater bacterial indicator has changed from fecal coliform → E. coli**
 - EPA recommended E. coli criteria published in Quality Criteria for Water, 1986 (EPA 440/5-86-001)
 - E. coli has a better correlation to swimming-associated health effects than fecal coliform
 - E. coli criteria is based on an acceptable swimming-associated illness rate of 8 per 1,000 swimmers

- **It's been recommended by EPA for so long, why change now?**
 - **New EPA approved laboratory methods for determining E. coli in wastewater samples**
 - **Other EPA Region 4 states changing to E. coli – Tennessee, Kentucky, others in the process**





Bacterial Indicator Changes

- **The Environmental Management Commission adopted the E. coli criteria changes on December 11, 2009**
- **Attorney General certification requested in January 2010**
- **Regulation changes submitted to EPA R4 on February 18, 2010**
 - usually a 90-day turnaround



Fecal Coliform Criteria

Designated Use

| | OAW | PWS | | S | SH | F&W | | LWF | A&I |
|-------------------------------|-------------|--------|--------|-------------|-------------|--------|--------|------|------|
| | | Summer | Winter | | | Summer | Winter | | |
| Geometric Mean, cfu/100 ml | 200 | 200 | 1000 | 200 | 200 | 200 | 1000 | 1000 | 2000 |
| Single Sample Max, cfu/100 ml | No Criteria | 2000 | 2000 | No Criteria | No Criteria | 2000 | 2000 | 2000 | 4000 |

E. Coli Criteria

| | OAW | PWS | | S | SH | F&W | | LWF | A&I |
|-------------------------------|-----|--------|--------|-----|-----|--------|--------|------|------|
| | | Summer | Winter | | | Summer | Winter | | |
| Geometric Mean, cfu/100 ml | 126 | 126 | 548 | 126 | 126 | 126 | 548 | 548 | 700 |
| Single Sample Max, cfu/100 ml | 235 | 487 | 2507 | 235 | 235 | 487 | 2507 | 2507 | 3200 |



Bacterial Indicator Changes

- **Implications for NPDES permit holders**
 - **ADEM Admin. Code R. 335-6-10-.05(6) requires compliance with new water quality standards as soon as practicable, but no longer than 3 years**
 - **Must request a compliance schedule with a justification of the timeframe**
 - **Typically keep the fecal coliform limit until the E. coli compliance date**
 - **Possibility of E. coli and fecal coliform limits for 303(d) and TMDL waters**
 - **recently submitted a letter asking to use ‘equivalent’ values**

ADEM TMDL Development Update

- **TMDL Program Accomplishments & Plans**
 - FY 2009
 - FY 2010
- **Future Plans**
 - TMDL Schedule
 - Other Initiatives





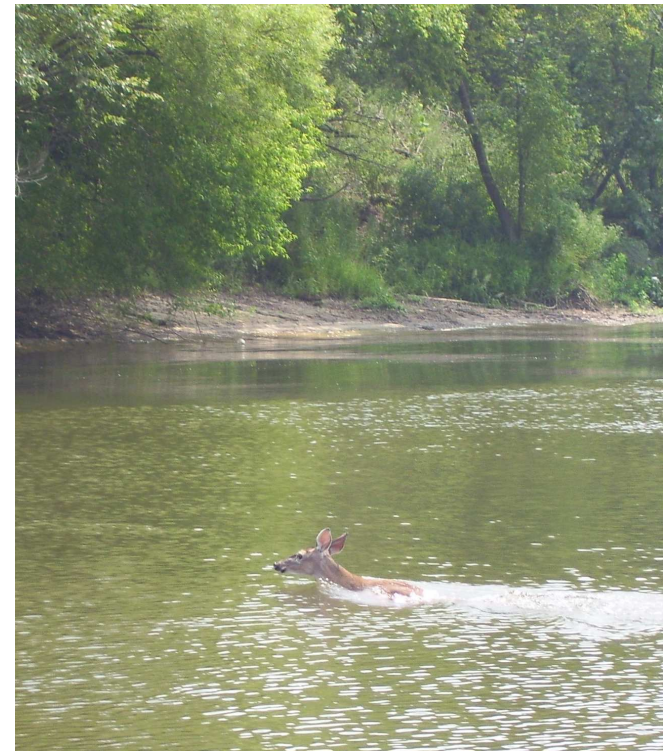
FY 2009 Approved TMDLs

| Waterbody Name | Waterbody ID | River Basin | County | Pollutant |
|----------------------------------|---------------------|-----------------|----------------|-----------|
| Buxahatchee Creek (Revision 1.0) | AL03150107-0502-100 | Coosa | Shelby/Chilton | Nutrients |
| Catoma Creek | AL03150201-0309-100 | Alabama | Montgomery | Pathogens |
| Dry Creek | AL03160111-0203-100 | Black Warrior | Blount | Pathogens |
| Buck Creek | AL03150202-0202-101 | Cahaba | Shelby | Pathogens |
| Cahaba Valley Creek | AL03150202-0202-401 | Cahaba | Shelby | Pathogens |
| Hurricane Creek | AL03140201-0502-100 | Choctawhatchee | Dale | Pathogens |
| Collins Creek | AL03170008-0402-700 | Escatawpa | Mobile | Pathogens |
| Bayou La Batre | AL03170009-0102-100 | Escatawpa | Mobile | Pathogens |
| Toulmins Spring Branch | AL03160204-0504-300 | Mobile | Mobile | Pathogens |
| UT to Threemile Creek | AL03160204-0504-500 | Mobile | Mobile | Pathogens |
| Bolton Branch (East) | AL03160205-0202-300 | Mobile | Mobile | Pathogens |
| Eslava Creek | AL03160205-0202-400 | Mobile | Mobile | Pathogens |
| Bolton Branch (West) | AL03160205-0202-700 | Mobile | Mobile | Pathogens |
| Bassett Creek | AL03160203-0601-100 | Lower Tombigbee | Clarke | Pathogens |



FY 2010 Accomplishments

- **Draft Delisting Decisions**
 - **Choctawhatchee River Basin**
 - Judy Creek – Nutrients
 - Indian Camp Creek – Nutrients
 - **Mobile River Basin**
 - Threemile Creek (101) – Chlordane
 - Threemile Creek (103) – Pathogens
 - **Upper Tombigbee River Basin**
 - Sipsev River – Metals (Fe)
 - Purgatory Creek – pH (2 segments)





FY 2010 Projects Underway

- **TMDLs Under Construction**
 - **Cahaba River Basin**
 - Cahaba River – Siltation (8 segments)
 - Cahaba River – Pathogens (3 segments)
 - **Chattahoochee River Basin**
 - Mill Creek – Organic Enrichment
 - **Chipola River Basin**
 - Cypress Creek – Nutrients, Organic Enrichment
 - **Choctawhatchee River Basin**
 - Dowling Branch – Organic Enrichment
 - Indian Camp Creek – Pathogens
 - Walnut Creek – Metals (Pb)



FY 2010 Projects Underway

- **TMDLs Under Construction**
 - **Mobile River Basin**
 - Mobile Bay – Pathogens
 - Bon Secour Bay - Pathogens
 - **Perdido/Escambia River Basin**
 - Perdido Bay – Pathogens
 - Little Lagoon - Pathogens
 - **Tennessee River Basin**
 - Elk River – Nutrients & pH
 - Sulphur Creek – Nutrients





FY 2010 Special Projects

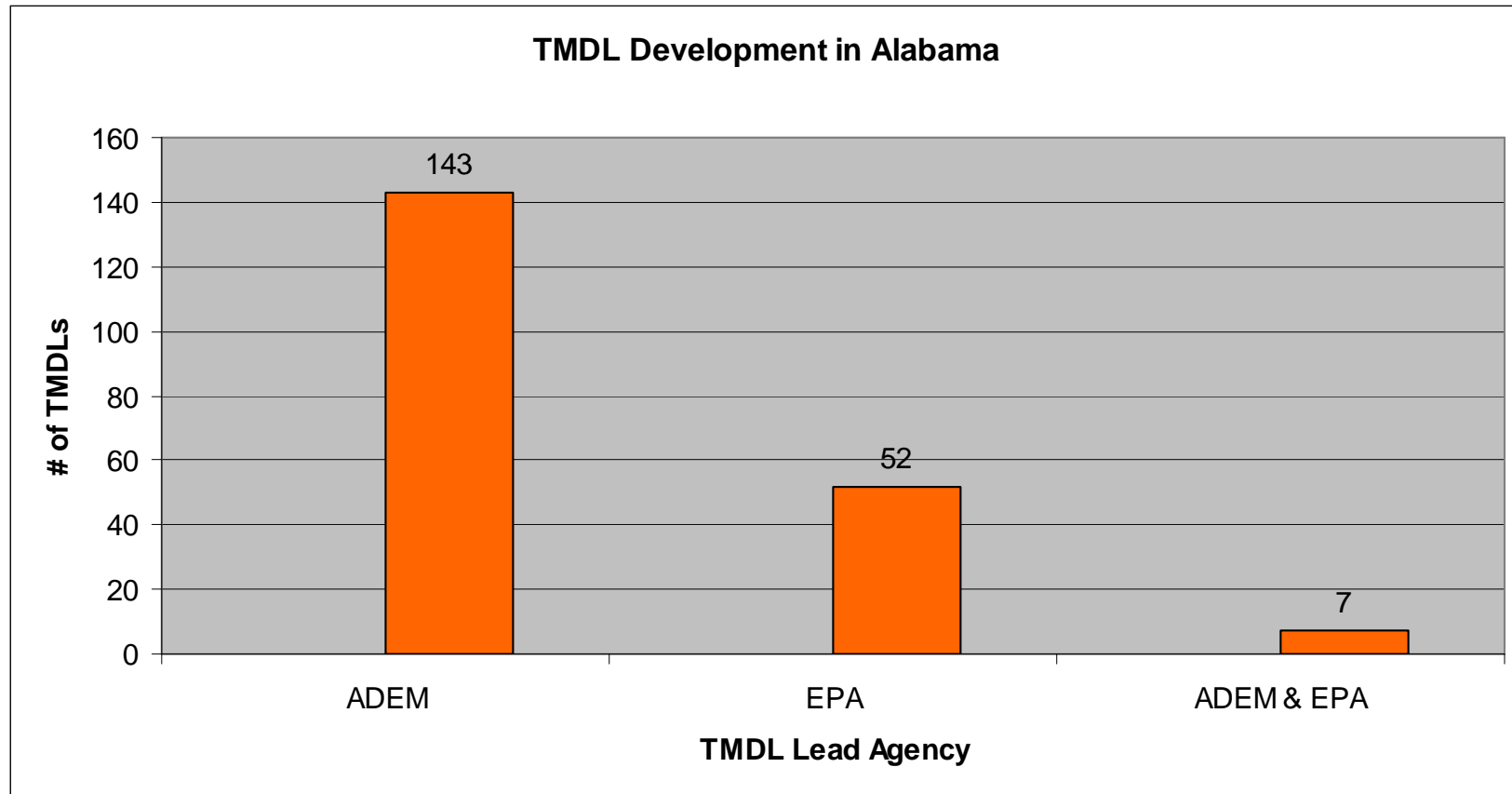
- **Woodruff & Dannelly Reservoir Modeling**
- **Lake Purdy Modeling**
- **Cahaba River DO Modeling**
- **Little Choctawhatchee River DO Modeling**
- **Mobile Bay Modeling**





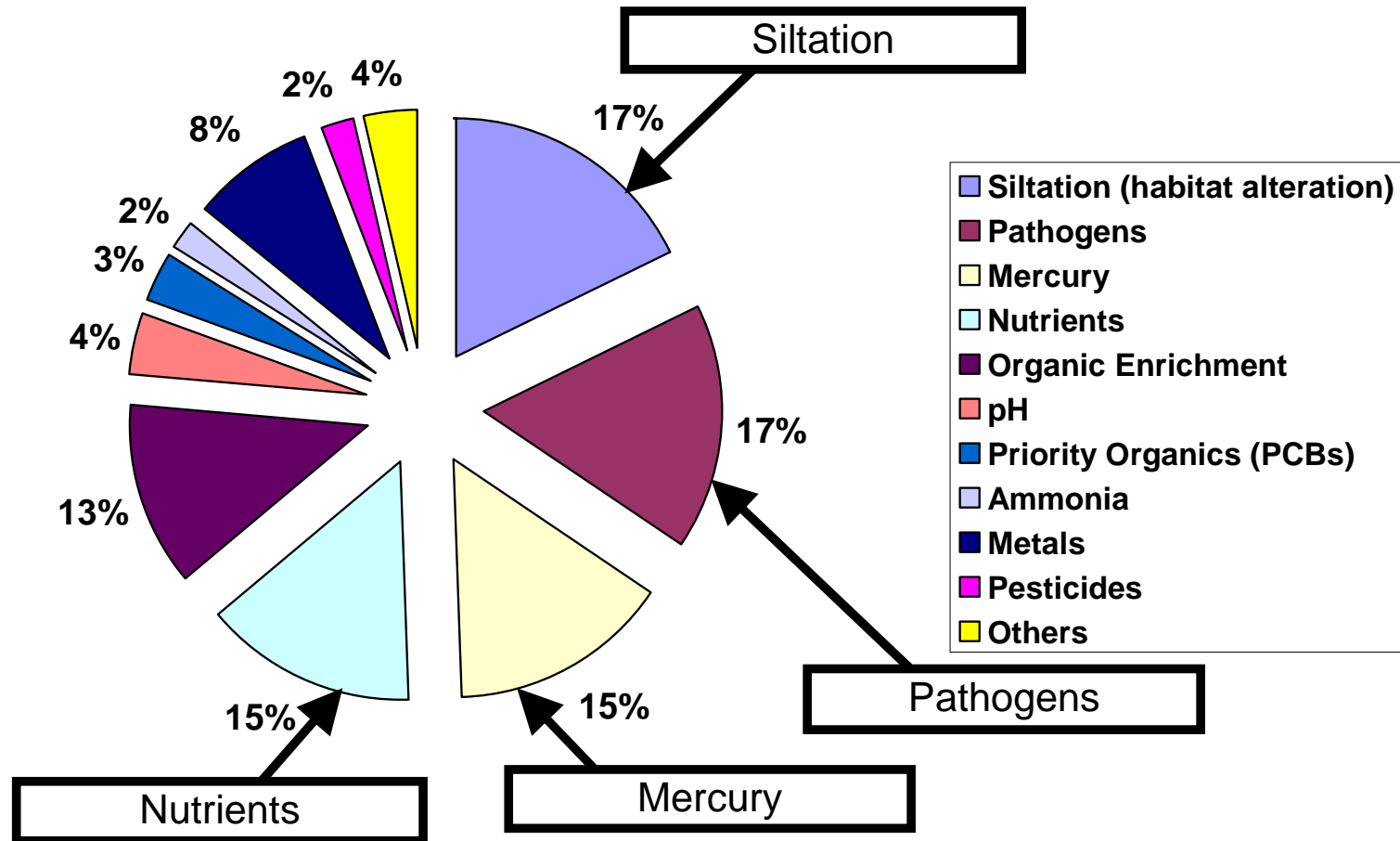
Current TMDL Count

Total TMDLs Completed = 202



| Pollutant / Cause | Number of TMDLs |
|--|-----------------|
| Organic Enrichment | 70 |
| Pathogens | 52 |
| Siltation (Sediment) | 30 |
| Nutrients | 26 |
| Ammonia | 9 |
| Others (pH, Pesticides, Metals, PCBs, Turbidity) | 15 |

2008 303(d) List Causes of Impairment





2011 TMDL Schedule

| Assessment Unit ID | Waterbody Name | River Basin | County | Causes |
|---------------------|------------------------|------------------|-----------|---|
| AL03160109-0105-101 | Brindley Creek | Black Warrior | Cullman | Nutrients |
| AL03160109-0105-102 | Brindley Creek | Black Warrior | Cullman | Nutrients |
| AL03160109-0108-102 | Mud Creek | Black Warrior | Cullman | Organic enrichment (CBOD, NBOD) |
| AL03150202-0103-300 | Lee Branch | Cahaba | Shelby | Pathogens |
| AL03140103-0102-700 | UT to Jackson Lake 3-C | Perdido-Escambia | Covington | Organic enrichment (CBOD, NBOD) Pathogens |
| AL03140103-0102-800 | UT to Jackson Lake 2-S | Perdido-Escambia | Covington | Organic enrichment (CBOD, NBOD) Pathogens |
| AL06030002-0106-101 | Guess Creek | Tennessee | Jackson | Unknown toxicity Organic enrichment (CBOD, NBOD) Pathogens |
| AL06030002-0303-500 | Hester Creek | Tennessee | Madison | Nutrients |
| AL06030002-0303-500 | Hester Creek | Tennessee | Madison | Turbidity |
| AL06030002-0404-200 | Goose Creek | Tennessee | Madison | Unknown toxicity |
| AL06030002-0602-200 | Mud Creek | Tennessee | Morgan | Organic enrichment (CBOD, NBOD) |
| AL06030005-0801-201 | McKiernan Creek | Tennessee | Colbert | Ammonia Nutrients Siltation (habitat alteration) Organic enrichment (CBOD, NBOD) |
| AL06030005-0802-100 | Pond Creek | Tennessee | Colbert | Organic enrichment (CBOD, NBOD) |
| AL06030006-0103-103 | Bear Creek | Tennessee | Marion | Metals (Aluminum) |



2012 TMDL Schedule

| Waterbody Name | Assessment Unit ID | River Basin | County | Causes |
|--|---------------------|---------------|------------------------|---|
| Autauga Creek | AL03150201-0203-102 | Alabama | Autauga | Unknown |
| Pintlalla Creek | AL03150201-0404-100 | Alabama | Crenshaw Montgomery | Pathogens |
| Alabama River (Claiborne Reservoir) | AL03150203-0805-102 | Alabama | Wilcox | Organic enrichment (CBOD, NBOD) |
| Alabama River (Claiborne Reservoir) | AL03150203-0805-103 | Alabama | Wilcox | Organic enrichment (CBOD, NBOD) |
| Alabama River (Claiborne Reservoir) | AL03150203-0805-104 | Alabama | Wilcox | Organic enrichment (CBOD, NBOD) |
| Alabama River (Claiborne Reservoir) | AL03150203-0805-105 | Alabama | Wilcox | Organic enrichment (CBOD, NBOD) |
| Alabama River (Claiborne Reservoir) | AL03150203-0703-101 | Alabama | Wilcox | Organic enrichment (CBOD, NBOD) |
| Pursley Creek | AL03150203-0802-100 | Alabama | Wilcox | Pathogens |
| Town Branch | AL03150203-0802-400 | Alabama | Wilcox | Pathogens |
| Ryan Creek | AL03160110-0502-102 | Black Warrior | Cullman | Pathogens |
| Dry Creek | AL03160111-0203-100 | Black Warrior | Blount | Nutrients Ammonia Organic enrichment (CBOD, NBOD) |
| Spring Creek | AL03150105-0807-102 | Coosa | Cherokee | Pathogens |
| Spring Creek | AL03150105-0807-103 | Coosa | Cherokee | Nutrients |
| Mud Creek | AL03150105-0807-200 | Coosa | Cherokee | Pathogens |
| UT to Dry Branch | AL03150107-0304-700 | Coosa | Shelby | Nutrients |
| Pepperell Branch | AL03150110-0102-700 | Tallapoosa | Lee | Pathogens |
| Parkerson Mill Creek | AL03150110-0202-200 | Tallapoosa | Lee | Pathogens |
| Moore's Mill Creek | AL03150110-0202-300 | Tallapoosa | Lee | Siltation (habitat alteration) |
| Cubahatchee Creek | AL03150110-0603-102 | Tallapoosa | Bullock Macon | Pathogens |



TMDL Program Future Initiatives

- **Strengthen Information Systems**
 - Waste Load Allocation (WLA) database
 - Water Quality Data databases
 - ALAWADR & BIOWADR
 - Watershed Characteristics
 - Land Use/Land Cove
 - Hydrology
 - Point & Non-point sources
- **Build TMDL Program through Key Partnerships**
 - Focus on Nutrients, Sediment, & Mercury TMDLs
 - Region 4 States
 - Gulf of Mexico Alliance (GOMA)
 - Centers of Watershed Excellence (Auburn & Alabama A&M)
 - State & Federal Agencies
 - Public & Private Entities





Alabama's TMDL Program

**Chris Johnson, Chief
Technical Support Section
Water Quality Branch
Water Division**

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ADEM

QUESTIONS???





Resource Extraction Permits

May 13, 2009

James (Jimbo) Carlson

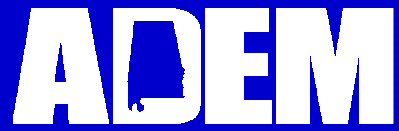
Chief, Mining and Natural Resource Section
Stormwater Management Branch
Water Division
Alabama Department of Environmental Management
(334) 271-7975
jhc@adem.state.al.us



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Introduction

- NPDES Reorganization
- Status of Permits
- Common Permitting and Compliance Issues
- EPA Surface Coal Mining Guidance
- EPA Permitting Authority
- Where We Are Now



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NPDES Reorganization

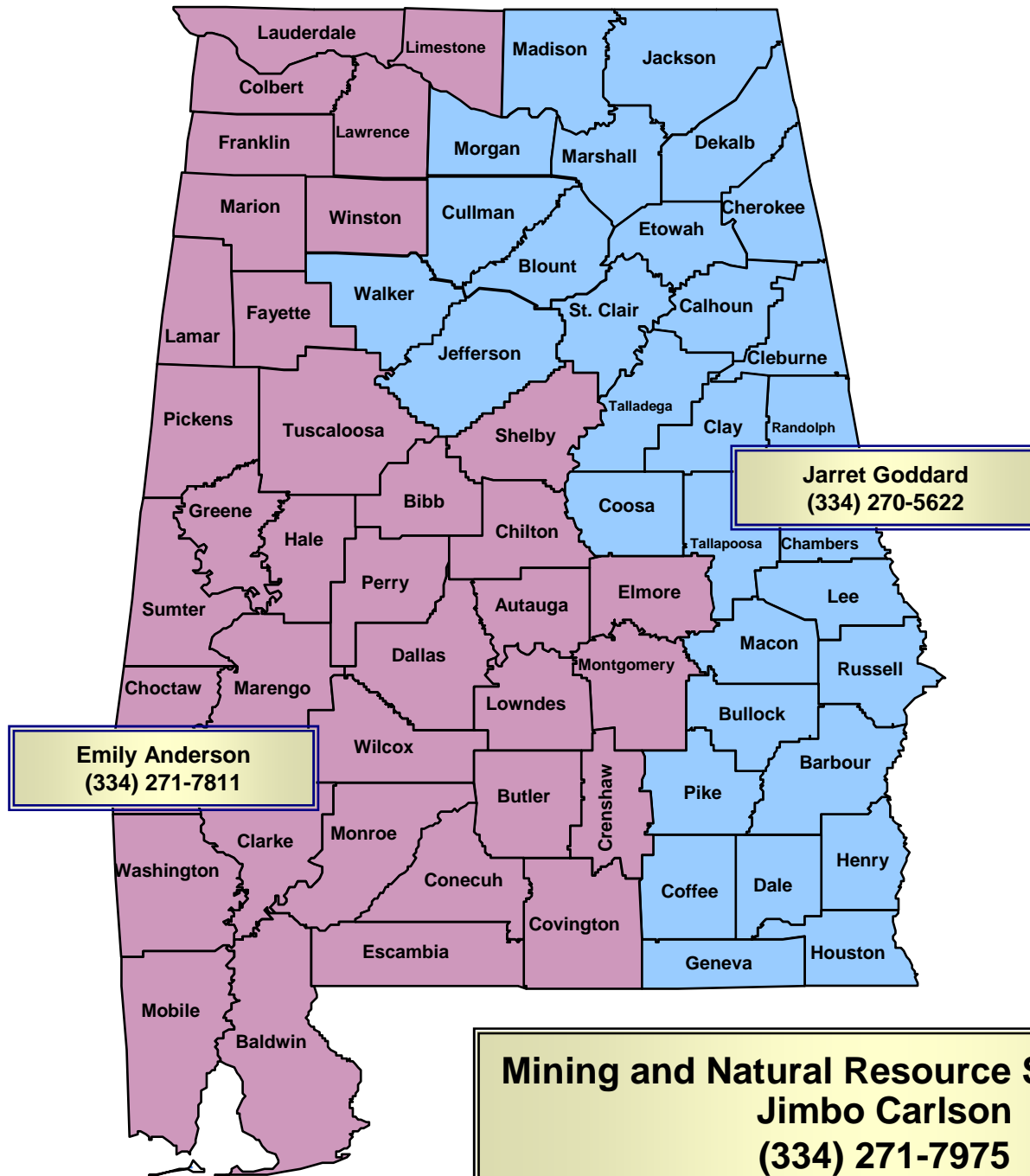
- Industrial/Municipal Branch
 - Industrial Section
Eric Sanderson (334) 271-7838
els@adem.state.al.us
 - Industrial General Permit Section
Lee Warren (334) 271-7845
dlw@adem.state.al.us
 - Municipal Section
Daphne Smart (334) 271-7801
dsmart@adem.state.al.us



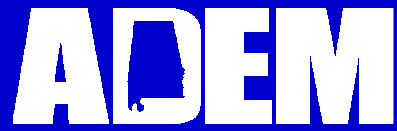
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NPDES Reorganization

- Stormwater Management Branch
 - Mining and Natural Resource Section
Jimbo Carlson (334) 271-7975
jhc@adem.state.al.us
 - North Stormwater Section
Dale Mapp (334) 394-4399
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 - South Stormwater Section
Jennifer Passineau (334) 394-4313
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- Sand and Gravel
 - Currently processing
 - Developing a general permit
- Quarry
 - Currently processing
- Coalbed Methane
 - Re-tooling the permit
- Coal
 - Holding applications



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Common Permitting and Compliance Issues

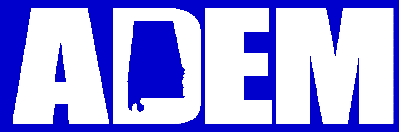
- Complete Applications
- Appropriate Fees (ADEM 335-1-6-.07 Schedule D)
- Review Draft Permits
- Compliance Inspection Deficiencies
 - SPCC issues (secondary containment)
 - BMPs maintained
- Discharge Monitoring Reports
 - Due the 28th day of the month following the reporting period
 - Confusion on bi-monthly sampling



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Common Permitting and Compliance Issues

- Application for Permit Reissuance
 - Due 180 days prior to the current permit's expiration date
 - Permit is administratively extended if the application is received on time
 - Discharges after the permit's expiration date are considered unpermitted discharges and subject to enforcement
 - Courtesy reminder letters



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EPA Surface Coal Mining Guidance

- On April 1, 2010, EPA issued Guidance for Appalachian Surface Coal Mining Operations
<http://www.epa.gov/owow/wetlands/guidance/mining.html>
 - Effective immediately (public comment period ends December 12, 2010)
 - Specifically mentions the states Kentucky, West Virginia, Virginia, Ohio, Tennessee, and Pennsylvania
 - Eco Region 68





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EPA Surface Coal Mining Guidance

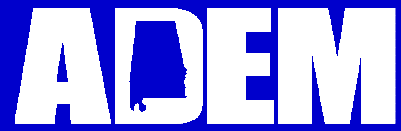
- Pond Study shows a correlation between conductivity and biological impairment
- ADEM's and Alabama Surface Mining Commission's limited data shows no correlation
- EPA may require an in-stream conductivity limit of 300-500 $\mu\text{S}/\text{cm}$
- ADEM proposed to conduct study to identify specific biological and chemical changes associated with surface mining activities
 - EPA said ok, but.....



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EPA Surface Coal Mining Guidance

- Could require significant increase in:
 - In-stream & effluent chemical monitoring (20 + additional parameters)
 - In-stream biological monitoring
- Guidance specifically states “Permits for dischargers associated with activities other than surface coal mining should also be evaluated to determine whether they are likely to result in in-stream conductivity levels above 500 $\mu\text{S}/\text{cm}$.”
- No final determination on how the guidance will be applied in Alabama



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EPA Permitting Authority

- EPA's Roll in NPDES Permitting
 - 30 day review period (usually mirrors public comment period)
 - Can request 90 day review period
 - Can provide comments to the State (ADEM must respond to comments)
 - Can object to permit
 - If EPA Objects
 - They must put their objection in writing
 - ADEM has 90 days to request public hearing



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EPA Permitting Authority

- If no resolution, EPA becomes permitting authority
 - Permittee then deals directly with EPA
 - EPA has no specified time to act on permit



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Where We Are Now

- ADEM is coordinating with ASMC & Corp of Engineers
- ADEM has held ALL coal permit applications since September 2009
- Currently have approximately 65 applications in house
- ADEM has begun to process permits (approximately 35)
- Continuing to seek answers from EPA



Resource Extraction Permits

May 13, 2010

James (Jimbo) Carlson

Chief, Mining and Natural Resource Section
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ADEM Regulatory Update Conference

Uniform Environmental Covenants Program

Larry Norris, Chief
Redevelopment Section
Environmental Branch
Land Division
May 13, 2010

- **Uniform Environmental Covenants Act**
- **Passed in 2007 Regular Session**
- **Effective January 1, 2008**
- **Regulations effective May 26, 2009**
Division 5

- **Allows Risk-Based Cleanups.**
- **Manages risk by imposing activity and use limitations.**
- **Makes activity and use limitations a legal obligation until removed—an environmental covenant.**



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Draft UECA Regulations – Applicability

Environmental projects under most ADEM cleanup programs where contamination is left in place.

Scrap Tire Program

UST Program

RCRA Program

Drycleaner Program

Federal Superfund

Soil/GW Remediation

Solid Waste Program

VCP

AHSCF Sites

UECA Regulations – Key Provisions

- **Defines “environmental covenant.”**
- **Environmental Covenant must be recorded.**
- **Duration.**
- **Termination.**
- **Amendments.**

- All Grantor, Holder, and ADEM signatures
- Legal description of site*
- Description of institutional and/or engineering controls
- Registered with the deed in the applicable county(s) Judge of Probate Office(s)
- Payment of applicable fees identified in ADEM Division 1 Fee Schedule J



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Draft UECA Regulations – Enforcement

- **ADEM may enforce an Environmental Covenant using its authority under Code of Alabama 1975, §22-22A-5.**
- **Civil action may be taken by other parties and by ADEM to enforce an Environmental Covenant.**



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Draft UECA Regulations – Fees

Fee Schedule J Environmental Covenants Fees

| <u>Type of Activity</u> | <u>Initial Issuance</u> | <u>Modification</u> |
|-------------------------|-------------------------|---------------------|
| Processing & Review Fee | | |
| Institutional Controls | \$2,000 | \$500 |
| Engineering Controls | \$3,000 | \$750 |
| Registry Recording Fee | | |
| For Class 1 controls* | \$6,000 | \$300 |
| For Class 2 controls* | \$4,125 | \$300 |
| For Class 3 controls* | \$2,275 | \$300 |

* - For classification of institutional and engineering controls, see ADEM Admin. Code 335-x-x.
Registry Recording Fee also includes costs of performing inspections for a 30-year period.



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Program Contact

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**M. Gavin Adams, Chief
Materials Management Section
ADEM Land Division**

2010 ADEM Regulatory Update

**May 13, 2010
Montgomery, Alabama**

Alabama Solid Waste Reduction (Recycling) Goal

Presentation:

History and Present Program

Rationale for Goal Development and Reporting

Development Process and Timeline

Elements of Current Final Draft Regulations

(Final Regulations: ADEM Administrative Code 335-13-13)

History

1989 Amendment to State Solid Waste Act
-Required State Solid Waste Management Plan
-Required Local plans with waste reduction components

1990's ADEM introduced legislation several times which included a reduction goal and attempted to provide funding for data collection and other purposes. This legislation failed to pass each year.

History

- 2002 State SWMP adopted into regulations with 25% waste reduction/recycling goal**
- No funding provided for data collection
 - No mechanism established for reporting
 - Only required reporting by state agencies/public schools
- 2008 Solid Wastes and Recyclable Materials Management Act Introduced**
- Levied \$1.00/ton on solid waste disposed
 - Included funding for local recycling programs through a grants program
 - Legislation passed and signed into law Earth Day 2008

Alabama Solid Wastes and Recyclable Materials Management Act (SWRMMA)

4 Main Purposes of SWRMMA

- **Statewide waste reduction/recycling program, goal and measurement methodology**
- **Stable funding for the ADEM Solid Waste Program (45% this and above)**
- **Establish a grants program for local recycling efforts (25%)**
- **Provide fiscal resources to remediate unauthorized dumps/illegal disposal sites (25%)**

**Thirty-seven grant applications were received.
Eight grants awarded totaling over \$1.1 million**

| | |
|-------------------------|---------------------|
| Albertville/Boaz | \$259,740.00 |
| Dothan | \$223,500.00 |
| Eclectic | \$31,400.00 |
| Elba | \$1,061.62 |
| Florence | \$196,562.00 |
| Lee County | \$120,139.00 |
| Tuscaloosa | \$279,150.00 |
| Vernon | \$50,000.00 |



**Preference given to joint projects
of a regional nature that requested
funds for infrastructure**

2010 Grant Program Highlights

- **Twenty-three grant applications were received.**
- **Requested funding of over \$5 million.**
- **Over \$1.7 million estimated to be available**
- **Reviews and awards are underway.**



Program Requirements

- **60% of funds for Larger Projects**
- **No award greater than 20% of funds available**
- **Lead applicant must be local government or governmental non-profit (ex. BOE, SWA)**

Alabama Solid Wastes and Recyclable Materials Management Act (SWRMMA)

- **Grants program provides infrastructure to local programs as well as funding for data collection and reporting**
- **Solid Waste Program funding allows for better disposal data and oversight of waste reduction reporting**
- **\$1.00/ton fee does not apply to material recycled, reused or recovered, only to material disposed**

Alabama Solid Wastes and Recyclable Materials Management Act (SWRMMA)

- **SWRMMA provides funding to assist with recycling and in some cases, data collection**
- **Statute requires ADEM to develop programs to encourage recycling and to measure and report recycling/waste reduction in support of the 25% goal**
- **Existing agency and SWA reporting provides some data in support of goal**
- **Data also needed to determine where ADEM should focus efforts of its recycling program components (landfill bans)**
- **Data also needed to meet objective of ending “sham” recyclers who are more disposal than recycling facilities**

Alabama Solid Wastes and Recyclable Materials Management Act (SWRMMA)

- **Questions as to how best to get required data?**
 - 1. How does ADEM ensure reporting from other sectors, public and private residential, industrial, commercial, institutional, etc.?**
 - 2. Will reporting be voluntary or required?**
 - 3. Who will report, and how best to capture the most amount of data and avoid double counting to the greatest extent possible?**
 - 4. Should also allow for verification of statutory 75% annual throughput requirement.**

- **After much discussion, decisions were made on how best to accomplish objectives**
 - 1. Reporting entities would be those that first accepted materials following the determination that those materials would be recycled.**
 - 2. Due to need for as complete a picture as possible, reporting would be mandatory but not overly detailed**
 - 3. As stated above, only the first “receiver” of material, and in-process recyclers would report.**
 - 4. One-time required registration vs. permit would allow for ensuring reporting and inspection/compliance to determine adherence to 75% throughput requirement.**

- **These decisions would require the development of regulations to accomplish objectives.**
- **ADEM began the development of regulations in 2009.**
- **Comprehensive stakeholders committee formed Fall 2009 to review draft regulations and make recommendations.**
- **Members of the stakeholders committee included representatives of the manufacturing industry, end users, environmental advocacy groups, the Alabama Recycling Coalition, and counties/municipalities.**
- **After initial review and comment, meetings were held with individual stakeholders for feedback and draft regulations were amended. Process took 6 months.**

- **Revised draft regulations went on public notice
February 14, 2010**
- **More than a dozen sets of written comments were
received during the public comment period**
- **Public Hearing held on April 2, 2010 with no public
comments being made**
- **ADEM currently going through reconciliation process**
- **Final draft regulations will be proposed for adoption by
the Environmental Management Commission
June 25, 2010**

Elements of Draft Regulations Prior to Reconciliation of Public Comments

- **Statutorily mandated annual throughput requirement (75%)**
- **Required one-time facility registration vs. permitting**
- **Semi-Annual reporting for registered and exempt facilities**
- **Facility description, information and operations plan**
- **Exemptions for certain materials and facility types**
- **Signage requirements, labeling and storage recommendations**
- **Recordkeeping and reporting requirements**
- **Requirements for closure**



Alabama Recycling Program

**M. Gavin Adams, Chief
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UST Operator Training

ADEM Regulatory Update
May 13, 2010

ADEM

OPERATOR TRAINING

- ADEM Operator Training regulations effective November 24, 2009
- All Class A, B and C Operators are required to complete training by August 8, 2012

Definition of Operator Classes

- Class A Operator
 - Individual having overall primary responsibility or daily on-site responsibility for O&M of all UST facilities
 - Full or part time employee (not third-party) who establishes work assignments to achieve and maintain UST system compliance

Definition of Operator Classes

- Class B Operator
 - Individual having daily on-site responsibility for O&M of UST facility or facilities
 - Full or part time employee (not third-party) who implements and/or maintains UST system compliance

Definition of Operator Classes

- Class C Operator
 - Individual who is at the site and is available to perform first line response
 - Full or part time employee (not third-party) who remains at the site and responds to alarms or other indications of emergencies such as spills or releases

Identification of Operators

- Class A, Class B and Class C Operators
 - Owners/operators may provide one person for more than one class and for more than one facility
 - Owners/operators must identify and maintain record of person for each operator class and for each facility
 - Class A & B operator - may have record on or off-site ¹²⁸
 - Class C operator - must have record on-site

Documentation of Operator Training

- Class A and Class B Operators
 - Record of operator and current training must be available for ADEM inspection by August 2012

Documentation of Operator Training

- Class C Operator
 - Record of operator and current training must be available at each facility and subject to ADEM inspection by August 2012
 - Record must include name of all Class C Operators for the facility, date employed, date trained, and
 - training course attended, or
 - name and class of operator that performed training

Operator Training Alternatives

- Class A and B Operator Training
 - ADEM approved training with evaluation of operator
 - ADEM approved exam without operator training
 - ADEM will accept training from other states with operator training program

Operator Training Alternatives

- Class C Operator Training
 - ADEM approved training course administered by Class A and/or Class B operator
 - ADEM approved training with evaluation of operator
 - ADEM approved exam without operator training
 - ADEM will accept training from other states with operator training program

Acceptable Training Course Content

- Class A Operator
 - Broad overview of Alabama UST regulatory requirements applicable to all sites owned
 - Evaluation of operator knowledge of above
 - Testing,
 - Practical Demonstration, or
 - Other tools determined acceptable by ADEM

Acceptable Training Course Content

- Class B Operator
 - In-depth training on implementing site-specific Alabama UST regulatory requirements
 - Evaluation of operator knowledge of above
 - Testing,
 - Practical Demonstration, or
 - Other tools determined acceptable by ADEM

Acceptable Training Course Content

- Class C Operator Training
 - Training on response to UST alarms and emergencies
 - Evaluation of operator knowledge of above
 - Testing,
 - Practical Demonstration, or
 - Other tools determined acceptable by ADEM

Non-Compliance with ADEM UST Regulations

- Requires A, B, and/or C Operator re-training
 - Re-training must cover areas found to be in non-compliance
 - Re-training required just for operator(s) responsible for non-compliance

Operator Re-Training Alternatives

- Class A, Class B and Class C Operators
 - Training and evaluation of operator knowledge during ADEM inspection, meeting, or ADEM approved training course which includes either
 - Testing,
 - Practical Demonstration, or
 - Other tools determined acceptable by ADEM

Operator Training Deadlines

- Class A and B Operator
 - Complete training within 30 days of assuming UST system responsibilities
- Class C Operator
 - Complete training prior to assuming responsibility for responding to emergencies

Electronic Reporting: eDMR and ePermitting

Janet Edwards
Information Systems
Permits and Services Division
ADEM

eDMR and ePermitting

Presentation Goal -

- *Overview*
- *Provide resources to apply and use system*



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eDMR

- Internet application that allows regulated facilities to submit discharge monitoring reports (DMRs) on line
- Integrated with the NPDES database at ADEM
- Voluntary participation



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eDMR

Available for:

- Industrial NPDES (Individual and General)
- Municipal NPDES
- Mining NPDES
- Underground Injection Control (UIC) Sites



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eDMR Facts

- Improved DMR data quality
- Timeliness of data on system
- Eliminates backlog of paper reports
- Reduces the number of non-receipt violations
- Reduces the amount of paper needed for reporting



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eDMR Facts

- Reduces data entry burden
- Reduces chances of data entry error
- Places the facility in control of reporting on-time
- Improves Program effectiveness/efficiency



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eDMR Facts

- Internet Explorer 6.0 or greater required
- Secure connection
- Data import
- On-line [Help](#)
- Save and Edit or Submit later



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eDMR Facts

EPA estimates that electronically reporting DMR data will save on average \$1000 to \$2000 per facility per year.



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eDMR Levels of Access

- Viewer
- Preparer
- Certifier

- Edit an open report
- Print DMR reports
- Attach a file to the online submission
- View prior submissions



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eDMR Sign up

A. Internet

1. **<http://www.adem.alabama.gov>**
2. **<https://e2.adem.alabama.gov/npdes>**

B. Hardcopy



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eDMR

E2 Login - Windows Internet Explorer

https://e2.adem.alabama.gov/NPDES/Pages/Main/login.aspx

File Edit View Favorites Tools Help

Web Search Bookmarks Settings Rhapsody Music MP3 Store My Music News Mail Answers Games Anti-Spy

Login E2 Login

ADEM
Alabama Department of Environmental Management

e2Reporting Home Help

USER LOGIN

To access the E2 System, please enter your username and password.

Username

Password

Overview

The Alabama Department of Environmental Management (ADEM) is providing a web-enabled electronic environmental (E2) reporting system for wastewater facilities to streamline the management of discharge monitoring reports (DMRs) required under the Alabama wastewater regulation program.

The E2 DMR systems provides wastewater facilities with an alternative way to submit DMR data and allow the ADEM to electronically validate the data, acknowledge receipt, and upload data to state's central wastewater database.

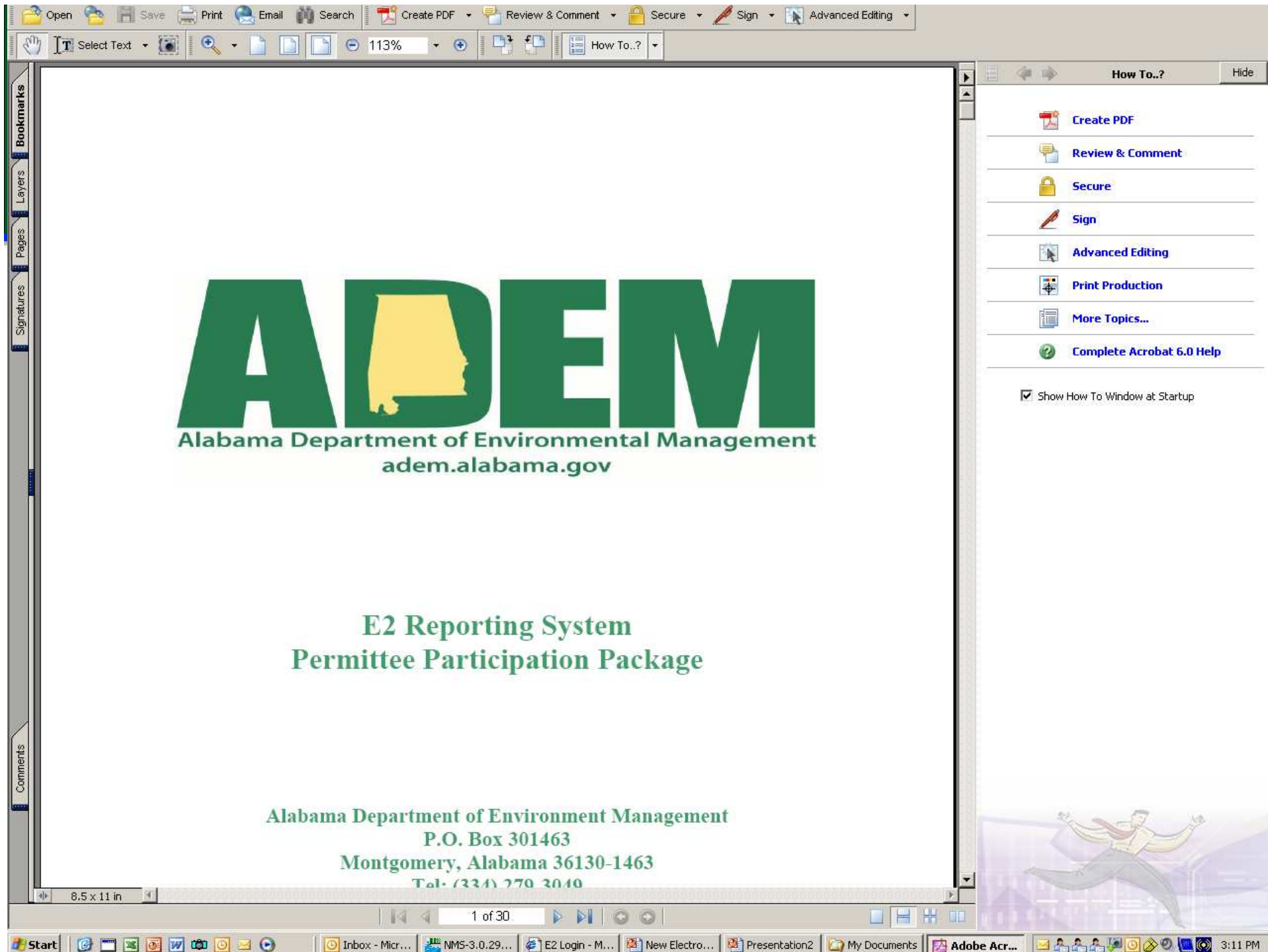
Implementing this new system will reach the goal of improving the management of data associated with the Department's wastewater monitoring program E2 system will:

- Save wastewater treatment facilities compliance costs with a streamlined reporting method and readily available computer tools.
- Save programmatic costs by reducing resources required for managing paper-based DMR reports.
- Improve the accuracy of compliance data by eliminating potential errors that will be otherwise introduced through manual data entry.
- Improve the state wastewater discharge treatment programs' overall effectiveness while offering alternatives for less process to the regulated community.

Help

- [Forgot Your Password?](#)
- [New to e-DMR?](#)
- [Facility Participation Package](#)

Note: The E2 Electronic Discharge Monitoring Reporting application has been tested and certified using Microsoft Internet Explorer 6.0.





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eDMR

Currently 630 Permittees registered to
use the eDMR system.



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ePermit

- Internet application
- Voluntary participation



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ePermit

Available for:

- Construction Storm Water (CSW) Registrations
- Hazardous Waste Notifications (8700-12)



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ePermit Features

- Self-register on-line
- Pay registration/application fee on-line
- Track Application/Registration through Process
- Save registrations/applications that are in progress



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ePermit Features

- Internet Explorer 5.5 or greater required
- Secure connection
- System sends email notifications for Password and PIN changes
- Submit Required Attachments on-line
 - Map Files
 - BMP documents



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ePermit Features

- View and Print Receipt for submittals
- View and Print Application/Registration



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ePermit Features

- Levels of Access
 - Owner or authorized agent
 - May prepare and submit registration/application
 - All Others
 - May prepare or prepare and submit based on the rights granted by the owner or authorized agent



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ePermit sign-up

<https://e2.adem.alabama.gov/epermit/Page/Entry/Login.aspx>



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ePermit

Currently 518 Applications/Registrations
received through the ePermit system.



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Janet Edwards

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<https://e2.adem.alabama.gov/npdes>

[https://e2.adem.alabama.gov/epermit/Page/Entry/
PermitHomeFrm.aspx](https://e2.adem.alabama.gov/epermit/Page/Entry/PermitHomeFrm.aspx)

2010 Website Updates

Aubrey White, Chief
General Services Branch

ADEM

Why?

- Front page cluttered
- Difficult to find information, especially for casual users
- No unified theme
- Unprofessional look

ADEM

2000

ADEM



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RULES &
REGULATIONS

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AND AQI

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2009

Alabama Department of Environmental Management



[Applicants for the ADEM Director Position](#)

[ADEM Announces Director Search](#)

[ADEM Director Trey Glenn Steps Down](#)

[Funding Under the American Recovery and Reinvestment Act](#)

[eFile](#)

[Proposed Section 303\(d\) List of Impaired Waters for 2010](#)

[Air Division](#)

[Field Operations Division](#)

[Coastal Information](#)

[Land Division](#)

[Water Division](#)

[Watershed Management](#)

[Pollution Prevention](#)

[Employment](#)

[Marinas](#)

- Easy to navigate
- Easy to retrieve information
- Ability to find local information
- Search function
- Permit “wizard”
- Enhanced mailing list and calendars
- Automated where possible



Alabama Department of Environmental Management

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Regulations and Laws

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Enter your email address
to sign up for ADEM
Email Notifications!

Submit

Search the ADEM Website:

Search



Dauphin Island - Jeff Rease.com

Welcome to ADEM

Alabama is blessed with a wealth and variety of natural resources which provide significant social, economic, and environmental benefits and opportunities for the citizens of Alabama. Our mission at ADEM is to protect and improve the quality of Alabama's environment and the health of all its citizens. This web site is designed to keep you informed and to help you as you live and work in Alabama.

Top News

June 9, 2010

2010 Groundwater Conference

May 13, 2010

2010 Annual Regulatory Update

April 29, 2010

Gulf of Mexico Oil Spill Information

April 28, 2010

ADEM Reminds Alabamians of Burn Ban

April 23, 2010

ADEM Awarding Recycling Grants

ARRA



Calendar



What's Happening
In Your County



Permit
Wizard



eFile



UST Delivery
Prohibition List



Gulf of Mexico Oil
Spill Information





Alabama Department of Environmental Management

Home > ADEM Programs > Waste/Remediation

ADEM Programs

Air

Coastal

Waste/Remediation

Brownfields /
VCP &
Inventory

Guidance /
Reports

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Waste Pre-
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Notices and Events



Coleman Lake, Cleburne County - Bill Wilson

Waste/Remediation Programs

The Land Division administers several of the Alabama Department of Environmental Management's Waste Management and Remediation Programs pursuant to the authorities granted by the provisions of the Alabama Environmental Management Act, Ala. Code §§22-22A-1 to 22-22A-16 and various other Acts. The Land Division has primary jurisdiction over disposal of solid and hazardous waste within the State and with the remediation of contaminated sites. Major programs within the Land Division include Hazardous Waste, Solid Waste, Remediation, Scrap Tire, and Brownfields/Voluntary Cleanup. Several other programs are also administered by Land Division.

Hazardous Waste Program: The Basics

The rules for ADEM's Hazardous Waste Program are found in Division 14 of the ADEM Administrative Code, pursuant to Ala. Code §§22-30-1 to 22-30-24. Division 14 regulations contain standards applicable to generators and transporters of hazardous waste and facilities that treat, store or dispose of hazardous waste. Division 14 also sets forth the permitting requirements for treatment, storage and disposal facilities and transporters of hazardous waste and for corrective action at sites where hazardous wastes may have been disposed of without a permit. These rules are at least as stringent as the federal Resource Conservation and Recovery Act (RCRA) regulations administered by the US Environmental Protection Agency (EPA).

The Land Division administers the delegable provision of RCRA. EPA has promulgated regulations that ADEM must follow in administering the provisions of RCRA in the State of Alabama. All federal hazardous waste rules are published in the Federal Register and subsequently Land Division undergoes a rulemaking process to adopt each regulation and any modifications to existing regulations into Division 14 of the ADEM Administrative Code. The Land Division may adopt regulations more restrictive than RCRA in certain instances.

The Hazardous Waste Program is administered within Land Division by the Governmental Hazardous Waste Branch (GHWB) and Waste Programs Branch (WPB) for hazardous waste permitting, compliance inspections

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A list of ADEM contacts as well as locations and maps.

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 - ☐ Public Hearings are listed on the website.
 - ☐ Public Meetings are listed on the website.
 - ☐ Public Notices are listed on the website.

When possible, only notify me about
changes affecting:

- ☒ all counties.
☐ these counties:

- | | | | |
|-----------------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <input type="checkbox"/> Autauga | <input type="checkbox"/> Conecuh | <input type="checkbox"/> Houston | <input type="checkbox"/> Morgan |
| <input type="checkbox"/> Baldwin | <input type="checkbox"/> Coosa | <input type="checkbox"/> Jackson | <input type="checkbox"/> Perry |
| <input type="checkbox"/> Barbour | <input type="checkbox"/> Covington | <input type="checkbox"/> Jefferson | <input type="checkbox"/> Pickens |
| <input type="checkbox"/> Bibb | <input type="checkbox"/> Crenshaw | <input type="checkbox"/> Lamar | <input type="checkbox"/> Pike |
| <input type="checkbox"/> Blount | <input type="checkbox"/> Cullman | <input type="checkbox"/> Lauderdale | <input type="checkbox"/> Randolph |
| <input type="checkbox"/> Bullock | <input type="checkbox"/> Dale | <input type="checkbox"/> Lawrence | <input type="checkbox"/> Russell |
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| <input type="checkbox"/> Calhoun | <input type="checkbox"/> De Kalb | <input type="checkbox"/> Limestone | <input type="checkbox"/> Shelby |
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What's Happening In Your County?



| | |
|------------|-----------|
| Autauga | Baldwin |
| Barbour | Bibb |
| Blount | Bullock |
| Butler | Calhoun |
| Chambers | Cherokee |
| Chilton | Choctaw |
| Clarke | Clay |
| Cleburne | Coffee |
| Colbert | Conecuh |
| Coosa | Covington |
| Crenshaw | Cullman |
| Dale | Dallas |
| DeKalb | Elmore |
| Escambia | Etowah |
| Fayette | Franklin |
| Geneva | Greene |
| Hale | Henry |
| Houston | Jackson |
| Jefferson | Lamar |
| Lauderdale | Lawrence |
| Lee | Limestone |
| Lowndes | Macon |
| Madison | Marengo |
| Marion | Marshall |
| Mobile | Monroe |
| Montgomery | Morgan |
| Perry | Pickens |



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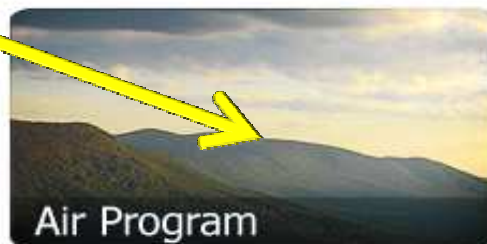
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Air Program



Waste/Remediation Program



Water Program



Coastal Program

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Check all that apply:

- ☒ Removing regulated asbestos-containing materials from dwellings, buildings, pipes, structures, etc.
- ☐ Loading gasoline at a refinery, terminal or bulk plant or unloading gasoline at a Stage 1 facility (not required for diesel or jet fuel)
- ☐ Facility has potential to emit 100 TPY or more of any criteria pollutant or 10 tons per year or more of a single hazardous air pollutant (HAP) or over 25 tons per year or more of any combination of HAP
- ☐ Facility has potential to emit greater than 250 TPY of regulated criteria pollutants or greater than 100 TPY of regulated criteria pollutants in one of the source categories
- ☐ Facility located in a non-attainment area has potential to emit 100 TPY of regulated criteria pollutants
- ☐ Facility has potential to emit greater than 250 TPY of regulated criteria pollutants but reduces the emissions to less than 250 TPY through restrictions
- ☐ Facility has potential to emit less than 250 TPY of regulated criteria pollutants and is not a source category

Submit

Reset



Air Program

Asbestos Removal Contractor Certification

Description: Alabama License to Remove Regulated Asbestos-Containing Materials

Issuing Division: Air **Branch:** Special Services Section

When is a permit required? Annually

Permit is required ☐ before construction ☒ before operation ☐ before discharge

Days from complete application to issuance: 3 (minimum) 7 (maximum)

Notes on approval timeline: None

Local approval required? No

Application procedure: Submit ADEM Form 497 with applicable fee.

Base permit fee: \$345

Additive fees (explain): n/a

Term of permit: 1 year

Public notice required? ☐ Yes ☒ No **Length of notice:**

Public hearing required? ☐ Yes ☒ No ☐ Departmental discretion/based on comments

ADEM Contact Person: Air Division **Phone:** 334-271-7861



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☒ Name ☐ Master ID
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County:

File Name:

Document Date:

☐ Date Range

Document Category/Type:

☐ Custom Type Query

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Permit Number:

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County:

File Name:

Document Date:

☐ Date Range

Document

Category/Type:

Category:

Monitoring

☐ Custom Type Query

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Category/Type:

☐ Date Range

Category:

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| | | JEFFERSON | | | | | 6665 AL0023027 073 08-31-2009 |

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
Alabama Department of Environmental Management Discharge Monitoring Report (DMR)

Permittee Name: Jefferson County Commission
Mailing Address: Suite A - 300 Courthouse, 716 Richard Arrington Jr. Blvd. N., Birmingham, AL 35203

PERMIT NUMBER: AL0023027
MONITORING POINT: 001 I

MAJOR
County: Jefferson
Program: Municipal
*** NO DISCHARGE [] ***

FACILITY: Jefferson County Cahaba River WWTP

LOCATION: NW1/4-19-19S-2W; 3900 Veona Daniels Road
Hoover, AL 35244

MONITORING PERIOD

YY | MM | DD
From: 2010 / 02 / 01 **To:** 2010 / 02 / 28

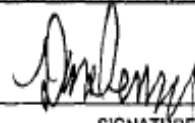
NOTE: Read instructions before completing this form.

| PARAMETER | | Quantity or Loading | | | Quality or Concentration | | | | NO. EX | Frequency of analysis | Sample Type |
|---------------------------------------|--------------------|-----------------------|----------------------|---------|--------------------------|----------------------|---------------------|-------|--------|-----------------------|-------------------|
| | | Average | Maximum | Unit | Minimum | Average | Maximum | Units | | | |
| OXYGEN, DISSOLVED (DO) | SAMPLE MEASUREMENT | ***** | ***** | | 9.7 | ***** | ***** | 19 | 0 | 01/01 DAILY | Grab |
| Parameter Code: 00300 | PERMIT REQUIREMENT | ***** | ***** | **** | 7.0 Minimum Daily | ***** | ***** | mg/L | | 5 X Weekly | Grab |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |
| pH | SAMPLE MEASUREMENT | ***** | ***** | | 7.8 | ***** | 8.2 | 12 | 0 | 05/07 Weekdays | Grab |
| Parameter Code: 00400 | PERMIT REQUIREMENT | ***** | ***** | **** | 6.0 Minimum Daily | | 8.5 Maximum Daily | S.U. | | 5 X Weekly | Grab |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |
| SOLIDS, TOTAL SUSPENDED | SAMPLE MEASUREMENT | 7,537 | 8,912 | 26 | ***** | 94 | 106 | 19 | 0 | 05/07 Weekdays | 24 Hour Composite |
| Parameter Code: 00530 | PERMIT REQUIREMENT | REPORT Monthly Avg. | REPORT Weekly Avg. | LBS/DAY | ***** | REPORT Monthly Avg. | REPORT Weekly Avg. | mg/L | | 5 X Weekly | 24 Hour Composite |
| Stage Code: G | | | | | | | | | | | |
| RAW SEW/INFLUENT | | | | | | | | | | | |
| SOLIDS, TOTAL SUSPENDED | SAMPLE MEASUREMENT | 13 | 51 | 26 | ***** | 0.2 | 0.7 | 19 | 0 | 05/07 Weekdays | 24 Hour Composite |
| Parameter Code: 00530 | PERMIT REQUIREMENT | 3,002 Monthly Average | 4,503 Weekly Average | LBS/DAY | ***** | 30.0 Monthly Average | 45.0 Weekly Average | mg/L | | 5 X Weekly | 24 Hour Composite |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |
| NITROGEN, AMMONIA TOTAL (as N) | SAMPLE MEASUREMENT | 21 | 85 | 26 | ***** | 0.3 | 1.1 | 19 | 0 | 05/07 Weekdays | 24 Hour Composite |
| Parameter Code: 00610 | PERMIT REQUIREMENT | 200 Monthly Average | 300 Weekly Average | LBS/DAY | ***** | 2.0 Monthly Average | 3.0 Weekly Average | mg/L | | 5 X Weekly | 24 Hour Composite |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |
| NITROGEN, TOTAL KJELDAHL (TKN) (as N) | SAMPLE MEASUREMENT | 52 | 128 | 26 | ***** | 0.7 | 1.7 | 19 | 0 | 05/07 Weekdays | 24 Hour Composite |
| Parameter Code: 00625 | PERMIT REQUIREMENT | 400 Monthly Average | 600 Weekly Average | LBS/DAY | ***** | 4.0 Monthly Average | 6.0 Weekly Average | mg/L | | 5 X Weekly | 24 Hour Composite |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |
| NITRITE + NITRATE Total I Det. (as N) | SAMPLE MEASUREMENT | 79 | 103 | 26 | ***** | 0.99 | 1.35 | 19 | 0 | 05/07 Weekdays | 24 Hour Composite |
| Parameter Code: 00630 | PERMIT REQUIREMENT | REPORT Monthly Avg. | REPORT Weekly Avg. | LBS/DAY | ***** | REPORT Monthly Avg. | REPORT Weekly Avg. | mg/L | | 5 X Weekly | 24 Hour Composite |
| Stage Code: 1 | | | | | | | | | | | |
| EFFLUENT GROSS VALUE | | | | | | | | | | | |

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

DAVID DENARD
DIRECTOR OF
ENVIRONMENTAL SERVICES

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SIGNATURE OF PRINCIPAL EXECUTIVE

TELEPHONE

205 325 5808

DATE

2010 / 02 / 17

ADEM

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webmaster@adem.state.al.us

Birmingham Air Toxics Study BATS

ADEM Regulatory Update

May 13, 2010



JEFFERSON COUNTY DEPARTMENT OF HEALTH



Woodward Iron Company



TCI Steelworks in Ensley



Sloss - Sheffield Iron and Steel Company



Sloss Blast Furnace



Woodward Iron Furnace



Sloss Furnace



US Pipe and Foundry

Early Industrial Birmingham

JEFFERSON COUNTY DEPARTMENT OF HEALTH





North Birmingham from I59/20

JEFFERSON COUNTY DEPARTMENT OF HEALTH





Looking from Red Mountain toward downtown

JEFFERSON COUNTY DEPARTMENT OF HEALTH





Downtown

JEFFERSON COUNTY DEPARTMENT OF HEALTH





Looking from Red Mountain towards downtown

JEFFERSON COUNTY DEPARTMENT OF HEALTH



National Ambient Air Quality Standards

| Pollutant | Level | Averaging Time |
|--|-------------------------|-------------------------|
| Carbon Monoxide | 9 ppm | 8-hour |
| | (10 mg/m ³) | 1-hour |
| | 35 ppm | |
| | (40 mg/m ³) | |
| Lead | 0.15 µg/m ³ | Rolling 3 month average |
| | 1.5 µg/m ³ | Quarterly average |
| Nitrogen Dioxide | 53 ppb | Annual |
| | 100 ppb | (Arithmetic average) |
| | | 1-hour |
| Particulate Matter (PM₁₀) | 150 µg/m ³ | 24-hour |
| Particulate Matter (PM_{2.5}) | 15 µg/m ³ | Annual |
| | 35 µg/m ³ | (Arithmetic average) |
| | | 24-hour |
| Ozone | 0.075 ppm | 8-hour |
| | 0.12 ppm | 1-hour |
| Sulfur Dioxide | 0.03 ppm | Annual |
| | 0.14 ppm | (Arithmetic average) |
| | | 24-hour |



What are toxic air pollutants?

Toxic air pollutants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.



Purpose of BATS

Provide
information to
decision-makers
concerning:

- Potential cancer and non-cancer risk.
- Potential risk through inhalation.
- Potential sources of the chemicals.
- Potential next steps



What was beyond the scope of this study

- Past or present health outcomes.
- Potential risk for pathways other than inhalation.
- Potential risk to ecosystems.



Sample site locations

- East Thomas – Mobile Sources
- North Birmingham – Industrial Sources w/ Adjacent Neighborhoods
- Shuttlesworth - Industrial Sources w/ Adjacent Neighborhoods
- Providence - Background



Analysis of:

- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Carbonyls
- Metals
- Hexavalent Chromium (Cr+6)



Chronic Exposure

- Chronic exposure – long term/low dose exposure. With chronic exposures it was assumed an individual was exposed to the observed air concentrations continuously for 24 hours per day over a 70-year period.



Acute Exposure

- Acute exposure – short term/high dose exposure. Acute exposures typically represented high dose exposure for short duration.



Benzene Cancer Risk Comparison

- 1×10^{-4} upper limit of acceptability
- 1×10^{-6} considered safe with an ample margin
- “one in a million” additional chance of experiencing a health impact.



Accumulative Cancer Risk

- Highest Risk
 - Shuttlesworth 1.66×10^{-4}
- Lowest Risk
 - Providence 3.36×10^{-5}



Single Chemical Cancer Risk

- Benzene
 - Shuttlesworth 6.40×10^{-5}
 - East Thomas 2.76×10^{-5}
 - North Birmingham 3.47×10^{-5}
- Carbon Tetrachloride
 - Providence 1.05×10^{-5}



Non-Cancer Hazard (Risk)

- Health Hazard calculated for each chemical of potential concern (COPC)
- Health Index (HI) = $\sum HQ_{COPC}$
- If $HQ \leq 1$, then adverse effects from individual chemical is unlikely
- If $HI \leq 1$, then adverse effects from all COPCs is unlikely

Health Index Results

- Providence
 - HI = 36.5 with Acrolein accounting for 97.4% of the HI
- Shuttlesworth
 - HI = 127.0 with Acrolein accounting for 94.2% of the HI
- Manganese and acetonitrile also contributed significantly at these sites



Without Acrolein, Manganese, and Acetonitrile

- Providence
 - HI = 0.52
- Shuttlesworth
 - HI = 1.23



Acute HQ for Individual COPC

- Shuttlesworth
 - Benzene HQ = 1.09 for maximum concentration of 31.54 $\mu\text{g}/\text{m}^3$
 - Second highest reading for benzene = 12.94 $\mu\text{g}/\text{m}^3$ for HQ = 0.45
- East Thomas
 - Acrolein HQ = 0.38
- North Birmingham
 - Benzene HQ = 0.44
- Providence
 - Formaldehyde HQ = 0.69



Chronic Cancer Risk

- Risk drivers at all four sampling sites
 - 1,3-butadiene
 - Acetaldehyde
 - Arsenic
 - Benzene
 - carbon tetrachloride
 - p-dichlorobenzene



Chronic Non-Cancer Hazard

- Hazard drivers at all four sampling sites
 - Acetaldehyde
 - Acetonitrile
 - Acrolein
 - Manganese
- Additional hazard drivers at East Thomas, North Birmingham and Shuttlesworth
 - Naphthalene
 - Tetrachloroethylene



Metals

- Other than arsenic
- Beryllium
 - Shuttlesworth (1.35×10^{-6})
- Cadmium
 - at East Thomas (1.01×10^{-6})
 - North Birmingham (1.82×10^{-6}).



Non-Cancer Risk Drivers

- Acrolein
 - 35.55 at Providence to 120 at Shuttlesworth
- Acetonitrile at East Thomas and Shuttlesworth
- Manganese at East Thomas, North Birmingham, and Shuttlesworth



Acute Exposures

- Benzene
 - 1.09 at Shuttlesworth



Toxicity Assessment

- Exposure level
- Route of exposure
- Frequency of exposure
- Duration of exposure



Risk Management

- MACT
- GACT
- Work directly with industry
- Existing EPA mobile source initiatives
- Future EPA mobile source initiatives



JEFFERSON COUNTY DEPARTMENT OF HEALTH



SPECIAL REPORT



The Smokestack Effect

Toxic Air and America's Schools

USA TODAY used an EPA model to track the path of industrial pollution and mapped the locations of almost 128,000 schools to determine the levels of toxic chemicals outside. The potential problems that emerged were widespread, insidious and largely unaddressed.



Photo by Garrett Hubbard, USA TODAY

JEFFERSON COUNTY DEPARTMENT OF HEALTH



For further information

- jcdh.org
- click on “Index A to Z”
- under “A” click on “Air Toxic Study” or
- under “B” click on “Birmingham Air Toxic Study”






Ron Shell **Land Division**

ADEM

- Definition of Solid Waste
- Academic Labs Rule
- Pharmaceutical Rule
- Mercury Export Ban
- Comparable Fuel Exclusion



Federal Register

Thursday,
October 30, 2008

Part II

Environmental Protection Agency

40 CFR Parts 260, 261, and 270
Revisions to the Definition of Solid Waste; Final Rule

October 30, 2008 / Rules and Regulations

20460, at www.epa.gov, is effective October 30, 2008.

Key Points:

- The action is not intended to bring new waste into the RCRA hazardous waste regulatory system and it does not do so. By removing (unintentionally) certain materials from the RCRA hazardous waste regulatory system, EPA expects that today's action will encourage and expand the safe, beneficial recycling of additional hazardous secondary materials. Today's action is consistent with EPA's longstanding policy of encouraging the recovery, recycling, and reuse of valuable resources as an alternative to disposal (i.e., landfilling and incineration), while at the same time maintaining protection of human health and the environment. It also is consistent with the resource conservation goal of the Congress in enacting the RCRA statute (as evidenced by the statute's name), and with EPA's vision of how the RCRA program could evolve over the long term to promote economic sustainability and more efficient use of resources. EPA's long-term vision of the future of the RCRA waste management program is discussed in the document "Beyond RCRA: Prospects for Waste and Materials Management in the Year 2020," which is available on EPA's Web site at: <http://www.epa.gov/gpc/waste/visions.htm>.

Key Points:

- I. Statutory Authority**
- II. What Revisions to the Regulations Is EPA Considering?**
- III. What Is the History of These Rules?**
- IV. How Do the Revisions to the Final Rule Compare to Those Proposed on March 26, 2007?**
- V. How Does the Concept of Hazardous Waste in the Final Rule Compare to the Final Rule's Definition of Hazardous Waste?**
- VI. Exclusion for Hazardous Secondary Materials That are Legitimately Recycled Under the Control of the Generator**
- VII. Exclusion for Hazardous Secondary Materials That are Transferred for the Purpose of Legitimate Recyclability**
- VIII. Exclusion for Hazardous Secondary Materials That are Transferred for the Purpose of Legitimate Recyclability**
- IX. Effect on Other Exclusions**
- X. Effect on Permitted and Interim Status Facilities**
- XI. Effect on Imports and Exports**
- XII. General Comments on the Proposed Revisions to the Definition of Solid Waste**
- XIII. Major Comments on the Exclusion for Hazardous Secondary Materials Legitimately Recycled Under the Control of the Generator**
- XIV. Major Comments on the Exclusion for Hazardous Secondary Materials Transferred for the Purpose of Legitimate Recyclability**



Definition of Solid Waste

Intent of the DSW Rule

- To better define when hazardous secondary materials being recycled are discarded and are thus regulated under RCRA
- To encourage legitimate reclamation of hazardous secondary materials.

Four major components of final rule

1. ***Under the Control of the Generator Exclusion*** Self-implementing exclusion for materials generated and reclaimed under the control of the generator. Includes reclamation performed on-site, at the same company, or under specific types of toll manufacturing agreements. Materials must be legitimately recycled, contained, not speculatively accumulated, and generators must submit biennial notifications.
2. ***Transfer-based Exclusion***
Self-implementing exclusion for materials generated and transferred to another company for reclamation. Includes all requirements of the generator-controlled exclusion plus additional recordkeeping. Generators must audit reclaimers without permits and reclaimers must have financial assurance.
3. ***“Legitimate” Recycling Provision***
4. ***Non-waste Determination Procedure***
Materials that are non-wastes (determined through a petition process).

Since publication of the DSW final rule?

- On January 29, 2009, the Sierra Club submitted an administrative petition to EPA requesting that EPA repeal the rule and stay its implementation.
- March 6, 2009, letter from industry associations requesting that EPA deny the Sierra Club's petition on the grounds that the DSW final rule is consistent with court decisions regarding EPA's jurisdiction to regulate waste under RCRA.
- In addition, both Sierra Club and the American Petroleum Institute have submitted petitions to the court for judicial review, with fourteen additional industry groups filing to intervene.

Since publication of the DSW final rule?

- On June 30, 2009, EPA held a public meeting to allow all interested stakeholders an opportunity to comment and provide input before EPA made a decision on Sierra Club's administrative petition.
- Of the 33 speakers at the public meeting, approximately 2/3 raised the issue of potential environmental justice impacts of the DSW rule.
 - Commenters noted that studies of hazardous waste treatment, storage and disposal facilities (of which recycling is a subset) show them to be located disproportionately in minority communities, with over 56% of the population within 3 kilometers of the facilities consisting of people of color, as compared to approximately 30% of the population in comparable areas without hazardous waste facilities.
- In response to these concerns, EPA announced at the July 2009 meeting of the National Environmental Justice Advisory Committee (NEJAC) that they would do an expanded analysis of environmental justice impacts of the rule as part of the petition response.
- EPA has received over 4,000 written comments (most of which were from a mass email campaign).

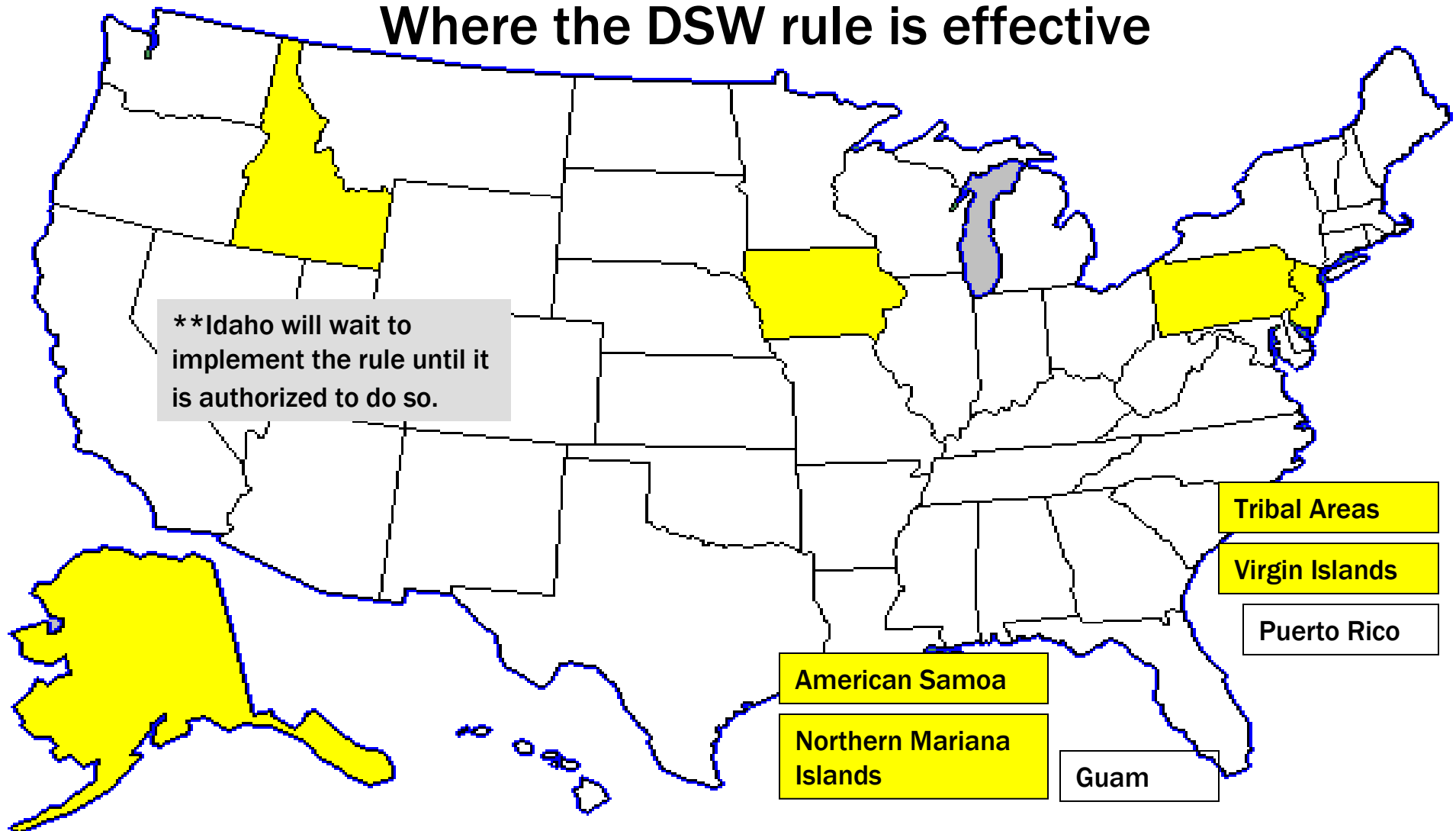
Next Steps

- Environmental Justice Analysis by EPA
 - Revise methodology and conduct the analysis.
 - Conduct peer review and solicit public comment on draft EJ analysis.
 - Use revised draft EJ analysis, along with analyses of other issues raised with the rule, to develop proposed response to Sierra Club petition.

ADEM

Definition of Solid Waste

Where the DSW rule is effective






Definition of Solid Waste

- New DSW not yet adopted by Alabama
- Approximately 18 months (minimum) for EPA to resolve issues with petitions
- Earliest Alabama might adopt new DSW is 2013.

ADEM

Academic Labs Rule Subpart K



Monday,
December 1, 2008

Part II
Environmental
Protection Agency
40 CFR Parts 261 and 262
Hazardous Waste; Alternative
Requirements for Hazardous Waste
Determination and Accumulation of
Unwanted Material at Laboratories Owned
by Colleges and Universities and Other
Eligible Academic Entities Formally
Affiliated with Colleges and Universities;
Final Rule

December 1, 2008 / Rules and Regulations

agreement with a college or university and teaching hospitals that are either owned by or have a formal written affiliation agreement with a college or university that generate hazardous waste in laboratories. Today's final rule refers to these collectively as "eligible academic entities." This final action is optional for eligible academic entities. That is, eligible academic entities that are large quantity generators (LQGs), small quantity generators (SQGs), or conditionally exempt small quantity generators (CESQGs) may choose to have their laboratories be subject to an EPCRA part 262, Subpart K, in lieu of pre-existing generator regulations. In States authorized to implement the RCRA program, Subpart K, could only be available as an option once it has been adopted by the State in which the eligible academic entity is located.

Only eligible academic entities may participate under Subpart K for the laboratories they own. The following are examples of entities that are not eligible because they do not satisfy the definition of "eligible academic entity": government facilities; commercial research and development (R&D) facilities; non-profit research institutions that are not covered by, nor have a formal written affiliation agreement with, a college or university; non-teaching hospitals; and teaching hospitals that are not owned by, nor have a formal written affiliation agreement with, a college or university. To determine whether the laboratories owned by an eligible academic entity are covered by this rule, interested parties should examine 40 CFR part 262, Subpart K carefully. If there are questions regarding the applicability of the rule to a particular entity, contact your State, EPA Regional office, or the personal level in the section of this recordable entitled. **FOR FURTHER INFORMATION CONTACT:**

ONLY AFFECTED BY THIS FINAL RULE

| Description of NACOS code | |
|---------------------------|--|
| Institutions | |
| Colleges | Universities and Professional Schools and Trade Schools |
| Hospitals | General and Specialized Hospitals |
| | Psychiatric and Substance Abuse Hospitals |
| | Specialty (except Psychiatric and Substance Abuse) Hospitals |



Academic Labs Rule Subpart K

- Alternate Generator Requirements:
 - Applicable to labs owned by eligible entities, including academic labs and teaching hospitals
 - Address the specific nature of hazardous waste generation and accumulation in academic labs
 - Webinar, May 18th
www.epa.gov/waste/hazard/generation/labwaste



Academic Labs Rule Subpart K

- Must notify if electing to manage hazardous waste under Subpart K
- Became effective March 30, 2010 in Alabama
- ADEM Admin. Code rule 335-14-3-.12



Tuesday,
December 2, 2008

Part IV

Environmental Protection Agency

40 CFR Part 260, 261, 264, et al.
Amendment to the Universal Waste Rule:
Addition of Pharmaceuticals; Proposed
Rule

Monday, December 2, 2008 / Proposed Rules

Wash, DC

On 12/02/2008

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information whose disclosure is
required by statute. Certain other
material, such as copyrighted material,
will be publicly available only in hard
copy. Publicly available docket
materials are available either
electronically in <http://www.regulations.gov> or in hard copy at
the RCEA Docket, EPA/RC, EPA West,
Room 3334, 1301 Constitution Ave.,
NW, Washington, DC. The Public
Reading Room is open from 9:00 a.m. to
4:30 p.m., Monday through Friday,
excluding holidays. The telephone
number for the Public Reading Room is
(202) 566-1744, and the telephone
number for the RCEA Docket is (202)
566-0270.

FOR FURTHER INFORMATION CONTACT: Lisa
Lauer, Office of Solid Waste (5061),
Environmental Protection Agency, 1200
Petra Promenade, NW,
Washington, DC 20510; telephone
number 703-605-7418; fax number:
703-605-6925; e-mail address:
lisa.lauer@epa.gov.

SUPPLEMENTARY INFORMATION

I. General Information

A. Does This Action Apply to Me?

This proposed rule could affect up to
634,552 entities in approximately 10
industries involved in health care
and/or management of hazardous
pharmaceutical wastes, as defined, in
this proposed rule. This includes
pharmacies, hospitals, physician
offices, dentists, offices, other health
care practitioners, occupational care
centers, ambulatory health care services,
residential care facilities, veterinary
clinics, and reverse distributors. Of these
entities, EPA's Biennial Reporting
System (BRS) indicates that
approximately 181 use large quantity
generators (LQs) of hazardous waste.
The remainder are likely to be either
small quantity generators (SQGs) or
conditional exempt small quantity
generators (CESQGs). Under this
proposed rule, hazardous pharmaceutical
waste generators may elect to have their
hazardous pharmaceutical waste managed
regulated, or under the current Resource
Conservation and Recovery Act (RCRA)
operator regulations as set forth in 40
CFR part 262, or may choose to manage
their hazardous pharmaceutical wastes
under the Universal Waste Rule (UWR).
In RCRA-authorized states, the option of
managing hazardous pharmaceutical
waste under this proposal would be
available once it has been adopted by
the state.

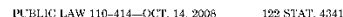
RCRA.com is a free by one of the
following methods:
• <http://www.regulations.gov> for
the online instructions for submitting
comments.
• E-mail: comments@epa.gov.
• Fax: 202-566-0741.
• Mail: RCEA Docket, Environmental
Protection Agency, Mailcode 20227.

For additional instructions on
submitting comments, go to the
SUPPLEMENTARY INFORMATION section of
this document.
Docket. All documents in the docket
are listed in the <http://www.regulations.gov> index. Although
listed in the index, some information is
not publicly available, e.g., CAC or other

- Proposed Rule to add pharmaceutical waste to the Universal Waste Rule
- Encourages generators to dispose of non-hazardous pharmaceutical waste as universal, removing the waste from landfills and wastewater treatment plants.

- Will facilitate collection of personal medications from the public at various facilities so that they can be properly managed
- Will be finalized no sooner than April 2011 and effective in Alabama no sooner than 2012

Mercury Export Ban



An Act

To prohibit the sale, distribution, transfer, and export of documents, records, and
for other purposes

Oct. 11, 2009
18, 2161

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Measure Export

SECTION 1. SHORT TITLE.

This Act may be cited as the “Mercury Export Ban Act of 2008”.

1.5 (240) 2001

SECTION 2. FINDINGS.

1.5 LSC 3611
2.0.1

(1) mercury is highly toxic to humans, ecosystems, and wildlife;

TABLE 1

(2) as many as 10 percent of women in the United States of childbearing age have mercury in the blood at a level that could put a baby at risk;

(3) as many as 630,000 children born annually in the United States are at risk of neurological problems related to mercury;

(4) the most significant source of mercury exposure to people in the United States is ingestion of mercury contaminated fish;

(A) 44 States have fish advisories covering over 13,000,000 lake acres and over 750,000 river miles.

(C) in 12 States the coastal advisories are statewide;

(6) the long-term solution to mercury pollution is to minimize global mercury use and releases to eventually achieve reduced contamination levels in the environment, rather than

(7) mercury pollution is a transboundary pollutant; depos-

(8) the free trade of elemental mercury on the world

market, at relatively low prices and in ready supply, encourages the continued use of elemental mercury outside of the United States, often involving highly dispersive activities such as

artificial gold mining.

10-414—OCT. 14, 2008

of mercury is declining in the United States as process changes to manufactured items, paints, switches, and measuring devices remain substantial in the developing world. The products are extremely likely to be controlled and waste management practices:

tries of the European Union collector of elemental mercury exports glob-

emission has proposed to the European Council of the European Union of elemental mercury from the

^a is a net exporter of elemental mercury. The United States Geological Survey, of elemental mercury more than the

of elemental mercury from the United

the effect on the market availability
switching to affordable mortgage alter-
natives.

stances Control Act (15 U.S.C. 2605);

and the following:

SALE, DISTRIBUTION, OR TRANSFER OF

FEDERAL AGENCIES.—Except as protective beginning on the date of enactment Federal agency shall convey, sell, or Federal agency, any State or local

any private individual) or entity are
the control or jurisdiction of the Fed.

Paragraph (1) shall not apply to
between Federal agencies of elemental
purpose of facilitating storage of mer-

to, sale, distributor, or transfer of
 cost.—Nothing in this subsection

OF ELEMENTAL MERCURY.

by striking "subsection (b)" and

of ELEMENTAL MIGHTY.—
effective January 1, 2013, the export

OF SUBSECTION (b).—(Subsection (b) is not a part of this section.)

ISSUE ON MERCURY COMPOUNDS.—

- Law Enacted October 14, 2008
 - 3 Main Provisions
 - 1) Mercury stockpiles held by the DOE and the DOD cannot be sold or transferred except for permanent storage in the US.
 - 2) Prohibits private companies from exporting mercury from the US beginning January 1, 2013.

3) The DOE has designated a DOE facility in Texas for the purpose of long term management and storage of elemental mercury generated within the US.

- Will remove a significant amount of mercury from the global market resulting in safer work environments and a decrease in emissions.



Comparable Fuel Exclusion

- Proposal to withdraw emission comparable fuel exclusion
 - Exclusion: Fuels produced from hazardous secondary materials, which, when burned in industrial boilers under specified conditions, generate emissions that are comparable to emissions from burning fuel oil in those burners. (December 2008)



Comparable Fuel Exclusion

- EPA is proposing to withdraw this exclusion because emission comparable fuel appears to be better regarded as being a discarded material and regulated as a hazardous waste.

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- Definition of Solid Waste
- Academic Labs Rule
- Pharmaceutical Rule
- Mercury Export Ban
- Comparable Fuel Exclusion



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Coal Combustion Waste Regulation

Stephen A. Cobb

Governmental Hazardous Waste Branch
Land Division

- **1980** – Bevill Amendment to RCRA temporarily exempts CCW and certain other wastes from hazardous waste regulation pending further study
- **1988, 1999** – Reports to Congress regarding CCW
- **1993** – Regulatory Determination regarding certain CCWs finding that Subtitle C regulation not warranted
- **2000** – Regulatory Determination regarding remaining CCWs finding that Subtitle C regulation not warranted, Beneficial Use regulations not needed, but Subtitle D regulations needed for certain wastes.
- **Dec 2009** – Kingston, TN - Surface Impoundment Retaining Wall Failure
- **May 2010** – Proposed Rule for Disposal of CCW from Electric Utilities

- **What is the appropriate level of regulatory control for Coal Combustion Waste?**
 - Subtitle C Hazardous Waste?
 - Subtitle C Special Waste?
 - Subtitle D Solid Waste?
 - Other?

- **Safe Management of Coal Ash**
- **Groundwater Protection**
- **Drinking Water Protection**
- **Dam Safety/Structural Stability of Impoundments**
- **Capacity Issues**
- **Beneficial Use**
- **Cost of Implementation**



Alabama's Challenge

- “For example, Alabama does not currently regulate CCR disposal under any state waste authority and does not currently have a dam safety program (although the state has an initiative to develop one).”
- “Going back to the period of the 1988 Report to Congress to 2005, two states (Alabama, and Florida) are reported to have relaxed portions of their standards, while not tightening any other portions of their program.”

Source: EPA CCR Proposed Rule (5/4/2010) – pp. 97-98

- Electric Utilities
- Ratepayers/Taxpayers
- Disposal Companies
- Beneficial Users
- Consultants
- Generators, etc. of other similar wastes?

– Other “Special Wastes” ? (high volume/low toxicity)

- Cement kiln dust
- Mining waste
- Oil and gas drilling muds and oil production brines
- Phosphate rock mining, beneficiation, and processing waste
- Uranium waste
- Other fossil fuel combustion waste

– Other Surface Impoundments?

- Dam Safety
- Groundwater Protection
- Drinking Water Protection

- **Signed May 4, 2010, to be published soon in Federal Register**
 - 560+ pages
 - 90 day comment period from FR publication date
 - 64 specific requests for comments and/or detailed information (as identified in Issue Summary (Section XIV – pp. 380-392) of the proposal)
 - Additional questions imbedded within text of proposal

- **Management of CCRs** (6 questions)
- **Risk Assessment** (4 questions)
- **Liners** (3 questions)
- **Beneficial Use** (14 questions)
- **Stigma** (4 questions)

– Proposed CCR Regulations

- General (1 question)
- RCRA Subtitle C (3 questions)
- RCRA Subtitle D (11 questions)
- Surface Impoundment Closeout (1 question)
- Surface Impoundment Stability (3 questions)
- Financial Assurance (4 questions)
- State Programs (2 questions)
- Damage Cases (2 questions)
- Regulatory Impact Analysis (6 questions)

- **EPA CCR Website:**

- <http://www.epa.gov/epawaste/nonhaz/industrial/special/fossil/ccr-rule/index.htm>
- Proposed Rule Document
- Frequent Questions
- Key Differences Between Subtitle C and Subtitle D Options

- **EPA Docket:**

- <http://www.regulations.gov> (Docket ID No. EPA-HQ-RCRA-2009-0640)
- 100+ documents

- **Federal Register**

- Publication Date - TBD

Questions?

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2010 ADEM Regulatory Update: On The Horizon

Pesticide General Permit

May 13, 2010

Dale P. Mapp, Chief
North Stormwater Section
Stormwater Management Branch
Water Division

Alabama Department of Environmental Management

Presentation Goal

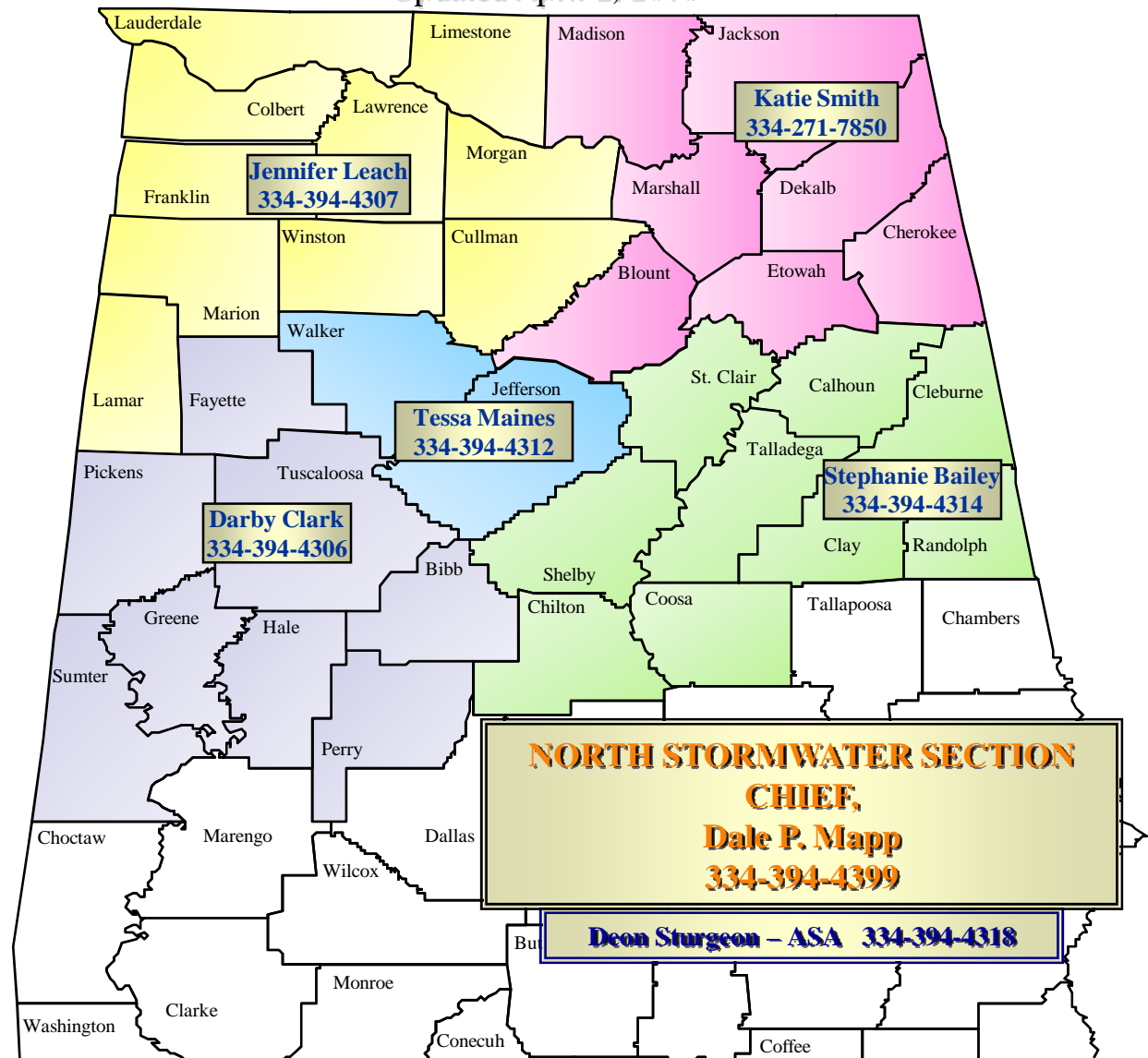
- Brief Discussion of Recent Reorganization
- Pesticides General Permit (PGP) History
- PGP - Proposed Scope
- PGP - Proposed Exclusions
- PGP - Proposed Requirements

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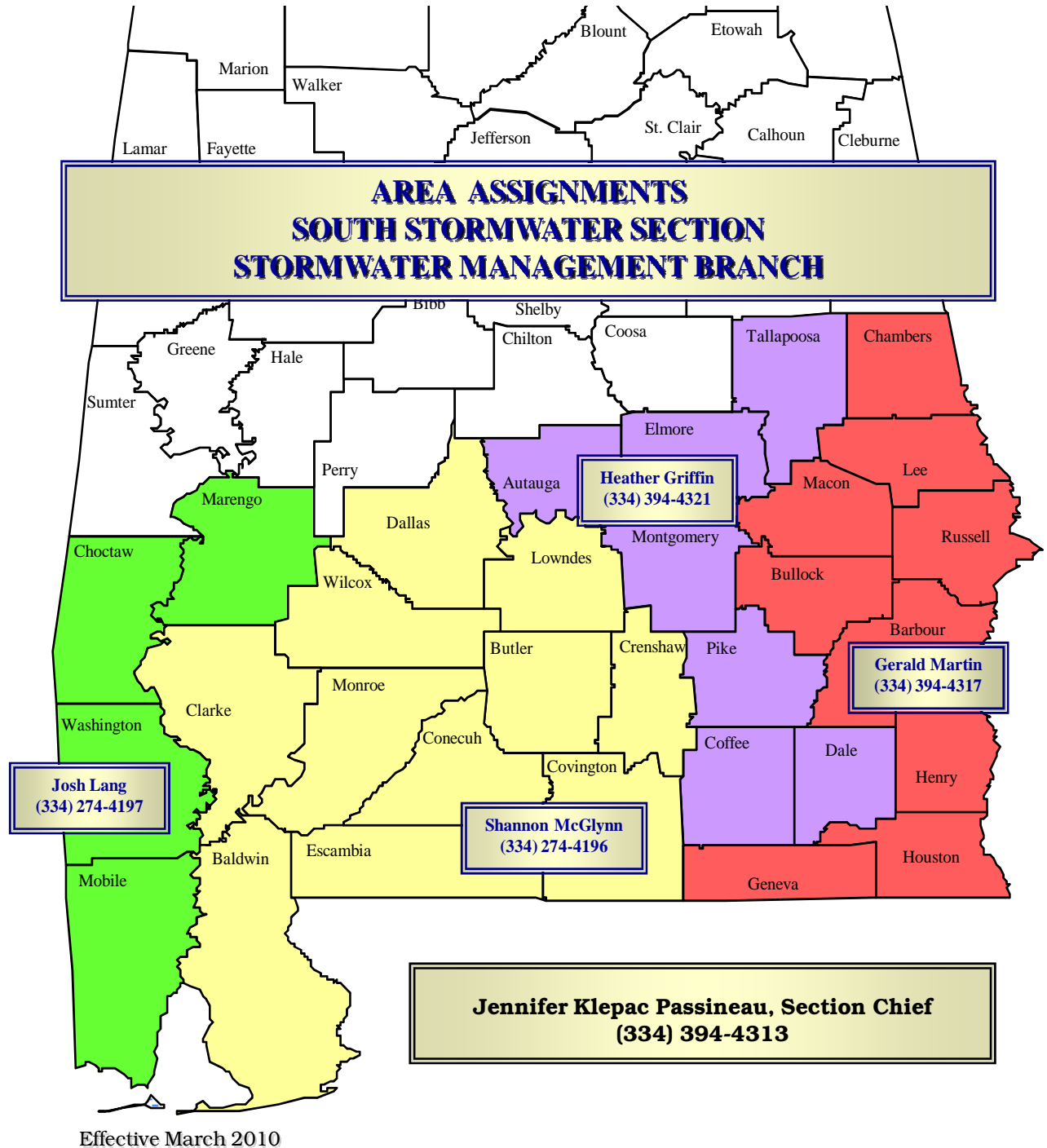
AREA ASSIGNMENTS NORTH STORMWATER SECTION STORMWATER MANAGEMENT BRANCH

Updated April 2, 2010



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Pesticides Rule: History

- EPA Final CWA Rule Published November 27, 2006 – No NPDES Permit Required for:
 - Application of pesticides ***directly to waters of the US,***
 - Application of pesticides over or near waters of the US, where the pesticide(s) will ***unavoidably be deposited to waters of the US***

Pesticides Rule: History

- January 7, 2009, The 6th Circuit Court of Appeals vacated the CWA Pesticides Rule
 - The court considered ‘biological’ and ‘chemical’ pesticides as pollutants under the CWA

Pesticides Rule: History

- June 8, 2009, the 6th Circuit Court granted EPA's request for a stay until **April 9, 2011**.

Pesticides Rule: History

- Bottom Line: EPA's rule that NPDES permits are not required for pesticide applications applied to, over or near waters of the US remains in effect until

April 9, 2011



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Pesticides Rule: History

- As of **April 10, 2011**, discharges into, over or near a water of the US from pesticide applications will require NPDES permit coverage

Pesticides Rule: History

- To meet the April 9, 2011, deadline, EPA is in the process of drafting a Pesticides General Permit (PGP).
- ADEM, as well as the rest of the country, has been involved in detailed discussions with EPA on developing the PGP

Pesticides Rule: Proposed Scope

- PGP will cover the following pesticide applications:
 - Mosquito and other aquatic nuisance insect control
 - Aquatic weed and algae control
 - Area-wide pest control
 - Aquatic nuisance animal control

Pesticides Rule: Proposed Scope

- PGP will also cover pesticides authorized under FIFRA, including:
 - Pesticides registered under FIFRA §§3 or 24(c), authorized for use under FIFRA §§5 or 18, and exempt from the requirements pursuant to FIFRA sec. 25(b)

Pesticides Rule: Proposed Scope

- So who will be required to obtain coverage under the PGP?
 - EPA, in conjunction with the states, is in the process of determining who would be required to obtain coverage. EPA's draft PGP, when it is published, should have this answered.

Pesticides Rule: Proposed Exclusions

- PGP does not authorize certain discharges to pesticide-impaired waters or Tier 3 waters (ex. ONRW)
- PGP **will not** cover:
 - Agricultural stormwater runoff
 - Irrigation return flow

Pesticides Rule: Proposed Requirements

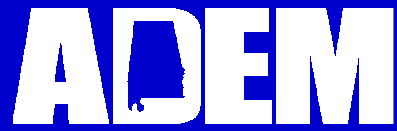
- **All** permittees must “minimize” pesticide discharges into waters of the US
- Permittees will be required to conduct visual monitoring of pesticide applications for identification of possible or observable adverse affects
- Some permittees must implement Integrated Pest Management (IPM) practices

Pesticides Rule: Proposed Requirements

- Some permittees will be required to submit an annual report that contains, among other things, a compilation of pesticides applied, quantities applied, and locations where applied during the previous calendar year

Pesticides Rule: Finally

- Please keep in mind that this presentation highlights some of the proposed requirements of the PGP.
- Also, the PGP is still in the works, so some of the information listed may change between now and when the Draft PGP is published for public comment.



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Contact Information

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Construction and Development Effluent Guidelines

ADEM Regulatory Update
May 13, 2010

Discussion Topics

- Background
- General Requirements
- Non-Numeric Requirements
- Numeric Standards
- Monitoring
- Implementation by ADEM

Background

- Section 304(m) of the Clean Water Act requires EPA to periodically identify industries for regulations
- EPA selected the C&D industry in 2000
- Proposed rule in 2002
- Withdrawal of the proposal in 2004
- Litigated by environmental groups and states
- Court found that EPA has a mandatory duty to issue ELGs identified in accordance with Section 304(m) of the CWA
- Court ordered deadlines
 - December 1, 2008 proposal
 - December 1, 2009 final rule
- December 1, 2009 EPA promulgated ELG and NSPS
- Regulation Effective February 1, 2010



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GENERAL REQUIREMENTS

- Must implement erosion and sediment controls and pollution prevention measures
- Phase in requirement for sites to sample stormwater discharges and to comply with the numeric effluent limitation of 280 nephelometric turbidity units (NTU)
 - August 1, 2011 Sites 20 Acres or Greater
 - February 2, 2014 Sites 10 Acres or Greater
- Disturbed area calculation is based on the entire site and includes non-contiguous disturbances

NON-NUMERIC LIMITATIONS

- Erosion and Sediment Controls
- Soil Stabilization
- Dewatering
- Pollution Prevention
- Prohibited Discharges
- Surface Outlets

NUMERIC LIMITATION

- Turbidity Limitation of 280 NTUs
- Sampling required at each discrete discharge point
 - Individual samples can exceed 280 NTU; however, the daily average must be below 280 NTU
- Calculation of daily value at each discharge point
 - EPA recommends a minimum of 3 samples to be collected
- Limitation does not apply on days with precipitation that exceeds the local 2-year, 24-hour storm event

ADEM IMPLEMENTATION STRATEGY

- Drafting a General Permit (GP)
 - Non-Numeric Limitations
 - Numeric Limitations
- Phase Operator's into the GP to ensure coverage by required dates

- August 1, 2011
 - Sites 20 Acres or Greater
- February 2, 2014
 - Sites 10 Acres or Greater

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Numeric Nutrient Criteria

May 13, 2010

Lynn Sisk

Water Quality Branch

Alabama Department of Environmental Management



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Overview

- Water Quality Standards 101
- Why Numeric Nutrient Criteria
- Numeric Nutrient Criteria in Alabama – So Far
- In the News – Florida
- What to Watch
- Wrap-up: What you need to know



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Objectives

- Fundamental knowledge of WQS
- The basics about numeric nutrient criteria
- Alabama's progress so far
- EPA's Florida proposal
- What's on the horizon for Alabama



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WQS 101

- Federal Statutory Authority
- State Statutory Authority
- Federal Regulations
- State Regulations



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WQS Components

- Designated Uses
- Narrative and Numeric Criteria
- Antidegradation and Outstanding National Resource Water

What can be measured but has no length, width or height?



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Designated Uses

- Outstanding Alabama Water
- Public Water Supply
- Swimming and Other Whole Body Water Contact Sports
- Shellfish Harvesting
- Fish and Wildlife
- Limited Warmwater Fishery
- Agricultural and Industrial Water Supply

- Narrative Criteria
 - General Applicability
- Numeric Criteria
 - Use-specific criteria
 - Aquatic life criteria
 - Human health criteria



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Antidegradation

- Protects existing uses – Tier 1
- Maintains water quality – Tier 2
- Recognizes and protects exceptional waters – Tier 3

*With pointed fangs it sits in wait, With piercing force its
doles out fate, Over bloodless victims proclaiming its
might, Eternally joining in a single bite. What am I?*

Nutrients... Good or Bad?



Nutrients
(P, N)



Nutrients
(P, N)





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Rulemaking Process

- Preparation of proposed revision
- Submittal to Legislative Reference Service
- Public notice
- Public hearing(s)
- Review and reconciliation of comments
- Action by EMC
- Legislative review and AG certification
- EPA approval



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From Narrative to Numeric – EPA

- June 1998 – National Nutrient Strategy
- May 2000 – Technical Guidance for Lakes and Reservoirs
- June 2000 – Technical Guidance for Rivers and Streams
- October 2001 – Technical Guidance for Estuaries and Coastal Waters
- May 2007 – EPA Memo: Pick Up the Pace
- June 2008 – Technical Guidance for Wetlands



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Narrative to Numeric – State Progress

| Numeric Nutrient Standards Status by Year | 4 Parameters 4 Waterbody Types | 1+ Parameters 1+ Entire Waterbody Types | 1+ Parameters Selected Waters | No Numeric Criteria |
|--|-----------------------------------|--|----------------------------------|---------------------|
| 1998 | 0 | 6 | 7 | 37 |
| 2008 | 0 | 7 | 18 | 25 |
| 2008 Numeric Nutrient Standards Status by Waterbody Type | 4 Parameters 4 Waterbody Types | 1+ Parameters 1+ Entire Waterbody Types | 1+ Parameters Selected Waters | No Numeric Criteria |
| Lakes/Reservoirs | 0 | 6 | 13 | 31 |
| Rivers/Streams | 0 | 5 | 9 | 36 |
| Estuaries (24 eligible States) | 0 | 3 | 7 | 14 |
| Wetlands | 0 | 0 | 4 | 46 |
| | | | | 288 |



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From Narrative to Numeric - Alabama

- Clean Lakes Studies (CWA §314)
- Water Wars
- Weiss Lake Concerned Citizens
- Joint Legislative Resolution
- Governor's Executive Order

What goes around the world and stays in a corner?



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Numeric Nutrient Criteria - Alabama Reservoirs

| Year | River Basins | Reservoirs |
|------|---|--|
| 2001 | Chattahoochee, Coosa, Tallapoosa | West Point, W.F. George, Weiss, R.L. Harris |
| 2002 | Tallapoosa, Tennessee | Martin, Yates, Thurlow, Guntersville, Wheeler, Wilson, Pickwick, Little Bear, Cedar |
| 2004 | Alabama, Black Warrior, Chattahoochee, Perdido-Escambia | Claiborne, Dannelly, Bankhead, Holt, Oliver, Warrior, Tuscaloosa, Lewis Smith, Harding, Gantt, Point A |
| 2005 | Black Warrior, Perdido-Escambia, Tombigbee | Inland, Jackson, Coffeetown, Demopolis, Gainesville |



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Numeric Nutrient Criteria - Rivers and Streams

- No adopted numeric criteria to date
- Numeric nutrient targets – TMDLs
 - Cahaba River: Total P
 - 4 segments
 - Flint Creek: Total P, Total N
 - 17 segments
 - Puppy Creek: Total P
 - Buxahatchee Creek: Total P



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Numeric Nutrient Criteria - Estuaries and Coastal

- Gulf of Mexico Alliance
 - Weeks Bay Pilot Study
- Mobile Bay NEP
 - Subwatershed Studies
- EPA National Coastal Assessments
- ADEM Coastal Monitoring Program



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EPA's Florida Proposal

- January 2010 FR Notice
 - Flowing Waters: Total N, Total P
 - Instream Protection Values, Downstream Protection Values
 - Lakes: Chl *a*, Total P, Total N
 - Springs / Clear streams: NO₂+NO₃
- Public Comment Period Closed April 28
- Final Decision by October 2010
- Estuaries – January 2011



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Next for Alabama... More Reservoir Criteria

| Reservoir | River Basin | Chlorophyll a, ug/l (Preliminary Estimates) |
|------------------|-------------|---|
| Neely Henry | Coosa | 18 (forebay and mid reservoir) |
| Logan Martin | Coosa | 17 (forebay and mid reservoir) |
| Lay | Coosa | 17 (forebay and mid reservoir) |
| Mitchell | Coosa | 14 (forebay), 16 (upper) |
| Jordan | Coosa | 14 (forebay) |
| Aliceville | Tombigbee | 18 (forebay) |
| Big Creek Lake | Escatawpa | 11 (forebay) |
| Woodruff | Alabama | 18 (forebay and mid reservoir) |
| Purdy | Cahaba | 16 (forebay), 18 (upper) |
| Frank Jackson | Yellow | ? |
| Bear, Upper Bear | Tennessee | ?, ? |



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Rivers and Streams....

- Causal, Response, or Both?
- Tallapoosa River Basin Pilot Project
- Question... Is there a measureable, consistent link between nutrient concentration and use impairment?

Buckets, Barrels, Baskets, Cans. What must you fill with empty hands?



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Estuaries and Coastal Waters....

- GOMA
 - Nutrient Reduction Priority Action Team
 - Governors' Action Plan II
- Action Step 2.5

Pilot the process for developing and evaluating nutrient criteria in at least one coastal estuary.



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Wetlands....

- Assessment Methodology





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Wrap Up

What have you learned?
What do you need to know?



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Conclusion

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Greenhouse Gases

ADEM Regulatory Update

May 13, 2010

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- There is a very strong consensus in the scientific community that the world is warming.
- According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2 to 1.4° F since 1900.
- There is substantial debate on the cause of this warming.

- “Consensus” reports, such as the Intergovernmental Panel on Climate Change (IPCC) in 2007 indicate relatively high levels of confidence (90%) that much of the increase in temperatures since 1950 is due to increased greenhouse gases.
- There is still uncertainty among scientists about the true extent to which these gases are causing global warming or global climate change.

- There is considerable uncertainty as to whether increased greenhouse gas emissions are causing global warming.
- There is no doubt as to the source of increased greenhouse gas emissions.
- There is also no doubt that global greenhouse gas emissions have increased over time due to human activity.

- ADEM maintains a neutral position on the issue of whether greenhouse gas emissions are the primary cause of global warming.
- We rely on input from our State Climatologist – Dr. John Christy.

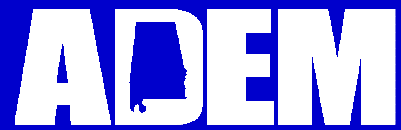
ADEM GHG Regulatory Activity

- Greenhouse gas reporting rule.
- Endangerment and Cause or Contribute Findings.
- GHG tailoring rule.



Mandatory Greenhouse Gas Reporting Rule

- On September 22, 2009, EPA issued a final rule for mandatory reporting of greenhouse gases (GHG) from large GHG emissions sources in the United States.
- The rule requires data collection beginning on January 1, 2010, and the first annual emissions report is due on March 31, 2011, for GHGs emitted during 2010.
- The threshold for reporting is 25,000 metric tons or more of carbon dioxide (CO₂) equivalent per year.



Mandatory Greenhouse Gas Reporting Rule

- Facilities will report their GHG emissions directly to EPA.
- Manufacturers of vehicles and engines outside the light-duty sector will begin reporting for CO₂ for model year 2011.
- This data will be publicly available and will allow reporters to track their own emissions, compare them to similar facilities, and identify cost effective ways to reduce future GHG emissions.



Endangerment and Cause or Contribute Findings for Greenhouse Gases

- On December 7, 2009, EPA announced that GHGs threaten the public health and welfare of the American people. EPA also found that GHG emissions from on-road vehicles contribute to that threat. The final rule was effective January 14, 2010.
- The findings do not impose any emission reduction requirements but rather allow EPA to finalize the GHG standards for new light-duty vehicles.
- EPA's endangerment finding covers emissions of six key greenhouse gases – carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.
- This clears the way for regulating GHGs under the Clean Air Act



Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

- On April 1, 2010, EPA and the Department of Transportation's National Highway Safety Administration (NHTSA) released a joint final rule to drastically reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the U.S.
- The rules increase Corporate Average Fuel Economy (CAFE) standards on model year 2012 to 2016 automobiles, and set GHG emission reduction requirements that will result in a fuel economy standard equivalent to an average of 35.5 miles per gallon by 2016.
- By triggering GHG regulation under section 202 (a) of the CAA, the light duty vehicle rules also indirectly impact many other carbon-intensive industries, which potentially will be subject to PSD and Title V permitting requirements.
- PSD and Title V permitting requirements will not apply to GHGs until at least January 2, 2011 per Johnson memo reconsideration.

- Proposes new thresholds for GHG emissions that define when CAA permits under the NSR and Title V operating permits would be required for new or existing industrial facilities.
 - 25,000 tons of CO₂ equivalents (CO₂e) was proposed for the major source applicability threshold and
 - 10,000 – 25,000 tons CO₂e was proposed for the PSD significance threshold.
- After taking comment on the proposed standards, EPA has informally indicated that the final tailoring rule will set the major source threshold at 75,000 TPY.



GHG Tailoring Rule

- EPA's Johnson memo reconsideration decision suggests an indirect approach to GHG controls given the lack of available technology for direct control of GHG emissions; these emissions may be best controlled indirectly through putting emphasis on the energy efficiency factor in best available control technology (BACT) reviews.
- This rule will, in large part, be a paperwork exercise; however, BACT determinations for GHGs will likely require the consideration the use of alternative fuels and control efficiencies rather than conventional control methods.
- EPA is to issue guidance in the near future addressing precisely how energy efficiency should be incorporated into BACT determinations for current criteria pollutants, or prospectively, for GHGs.

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National Ambient Air Quality Standards May, 2010

Chris Howard

Air Division

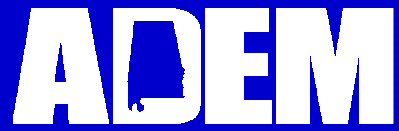
Alabama Department of Environmental Management

- Revised Ozone National Ambient Air Quality Standard (NAAQS)
- Fine Particle NAAQS
- New standards for sulfur dioxide and nitrogen oxides

Formal designation by EPA
that an area does not meet a standard
or that it
contributes to an area
not meeting the standard.

Note: By State and Federal law, EPA has total authority over the standards and for setting boundaries of non-attainment areas.

- Considered to have unhealthy air
- Transportation planning must consider air quality impacts(mostly procedural)
- Obstacles to growth of large new industries (details next)



Obstacles to Obtaining a Construction Permit in Non- attainment area

- Must have offsetting emission reductions, often at a ratio of 1.2 to 1 or greater
- Must install best control technology from anywhere in the world
- More scrutiny by public and EPA
- Result: In Alabama, no one has ever applied for a non-attainment permit

- Ground level ozone - not stratospheric ozone.
- Colorless gas formed on dry, sunny, hot, stagnant days April - October
- Primarily a problem in and near metropolitan areas
- Not directly emitted
- Pollutants which form ozone come from many sources



Historical Ozone NAAQS

| | |
|--------------|--------------|
| 1975 to 1998 | 120 ppb |
| 1998 to 2008 | 85 ppb |
| 2008 to 2010 | 75 ppb |
| FUTURE | 60 to 70 ppb |

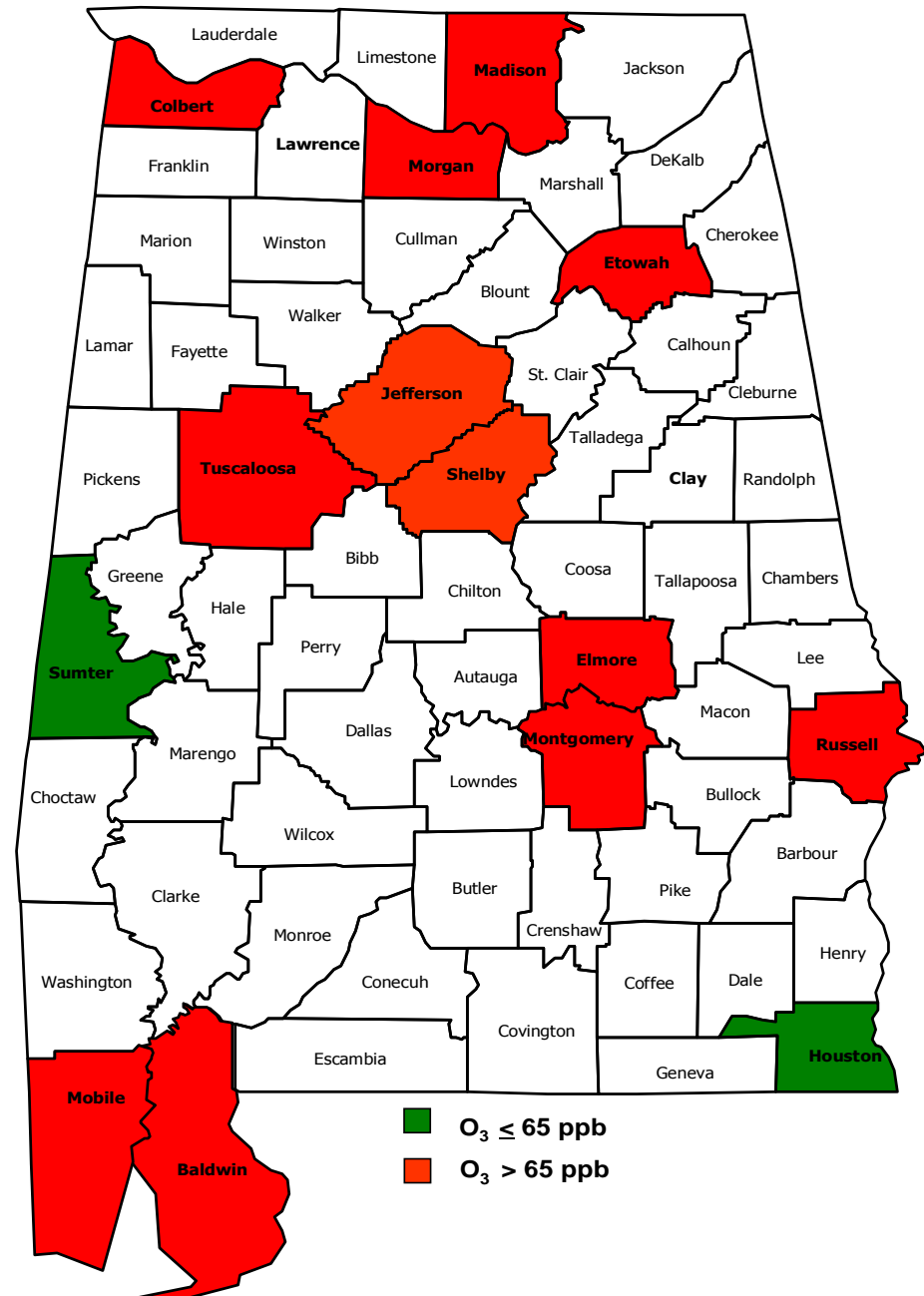


Implementation Schedule For Revised Ozone Standard

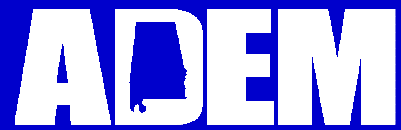
- EPA Finalizes Standard - August 2010
- Nonattainment Area Designations - August 2011
- State Implementation Plans due - December 2013

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Counties Over an 8-Hour Ozone NAAQS of 65 ppb 2007-2009



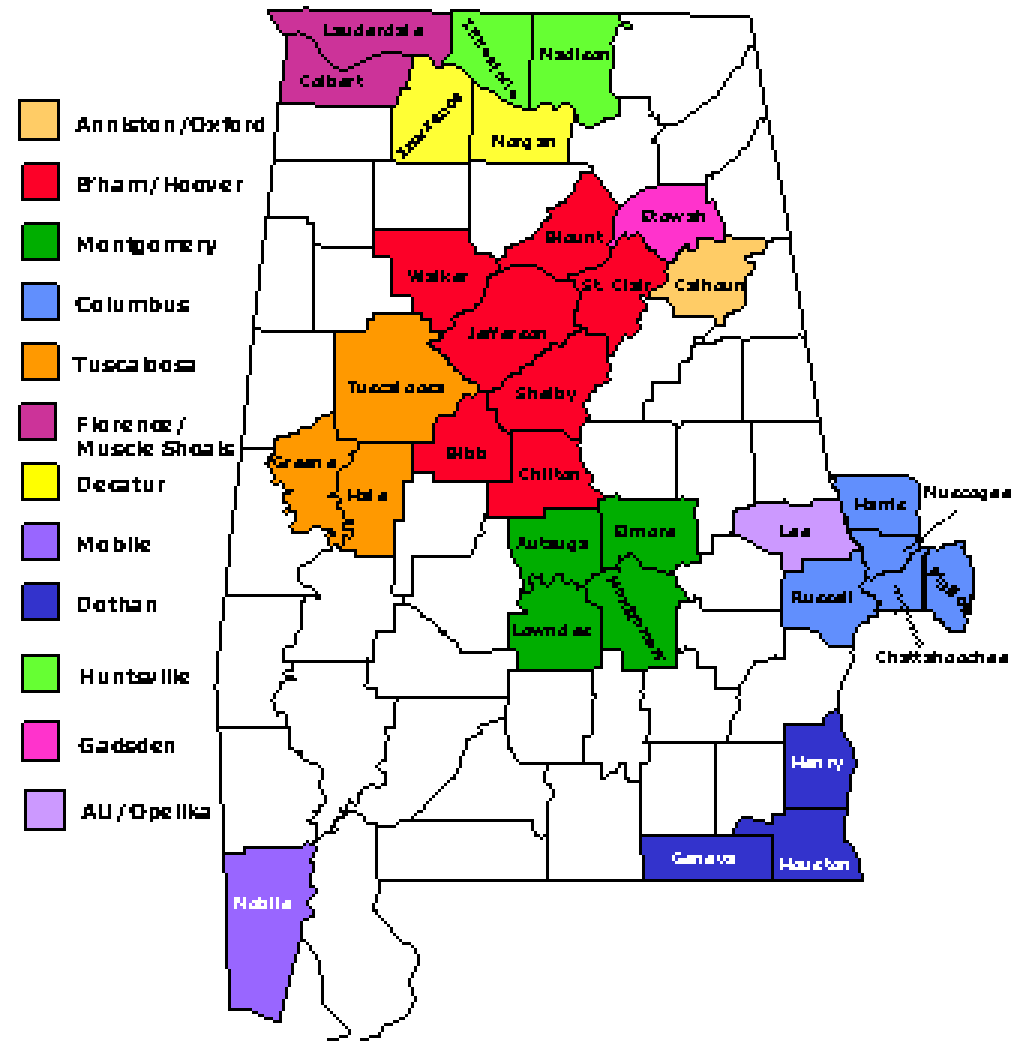
- EPA's presumptive ozone nonattainment area boundaries can include:
 - all counties in a consolidated metropolitan statistical area (CMSA) with a violating ozone monitor, and
 - all counties in a metropolitan statistical area (MSA) with a violating ozone monitor.



Metropolitan Statistical Areas

METROPOLITAN STATISTICAL AREAS

Based on 2000 Census Updated to 2006

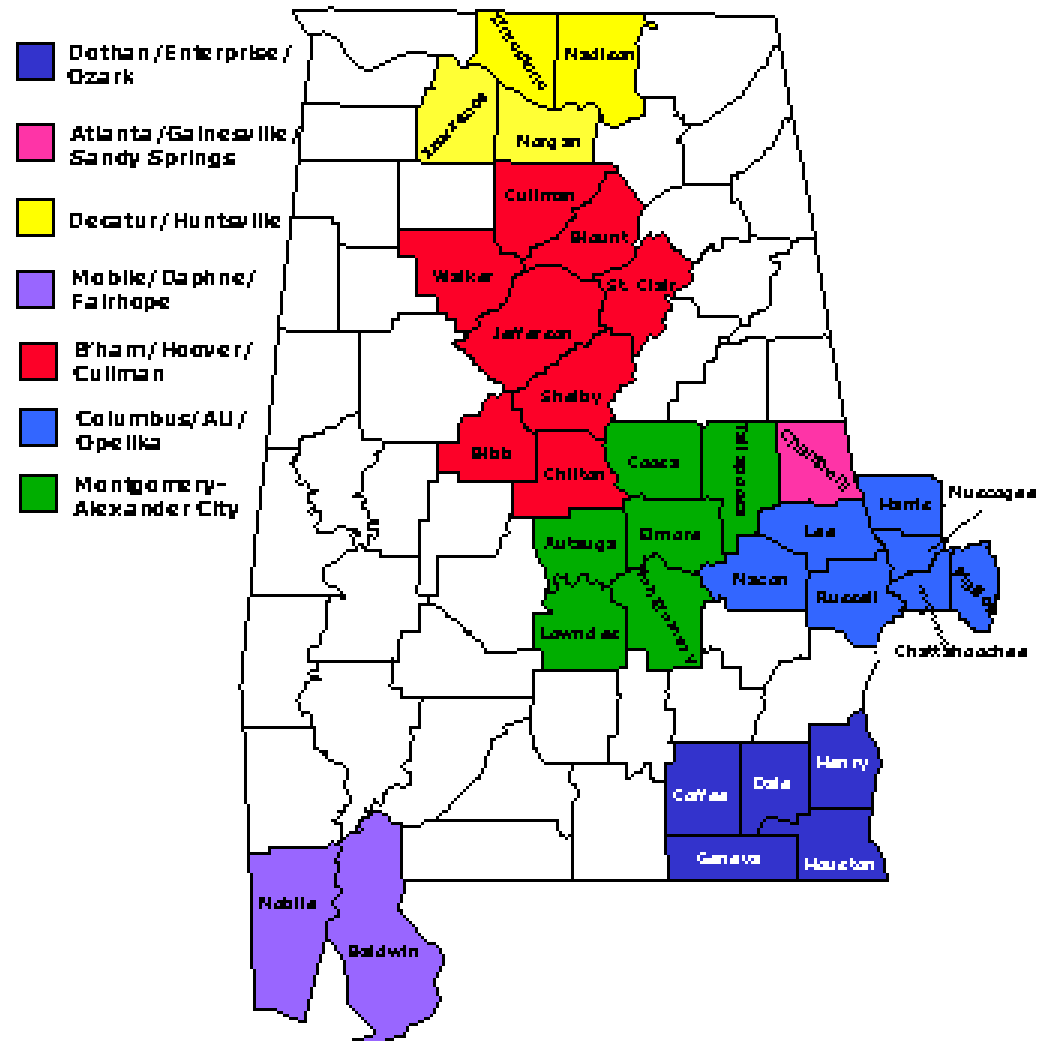




Combined Statistical Areas

COMBINED STATISTICAL AREAS

Based on 2000 Census Updated to 2006



Fine Particulate Matter is:

- A general term used for a mixture of solid particles and liquid drops in the air.
- PM-fine - Particles which have aerodynamic diameters less than 2.5 micrometers.

- All areas meet the annual standard except Jefferson County.
- Annual Standard = $15 \mu\text{g}/\text{m}^3$
- Jefferson Co. 3 Year Avg. = $15.1 \mu\text{g}/\text{m}^3$

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Current Annual PM_{2.5} Nonattainment Areas

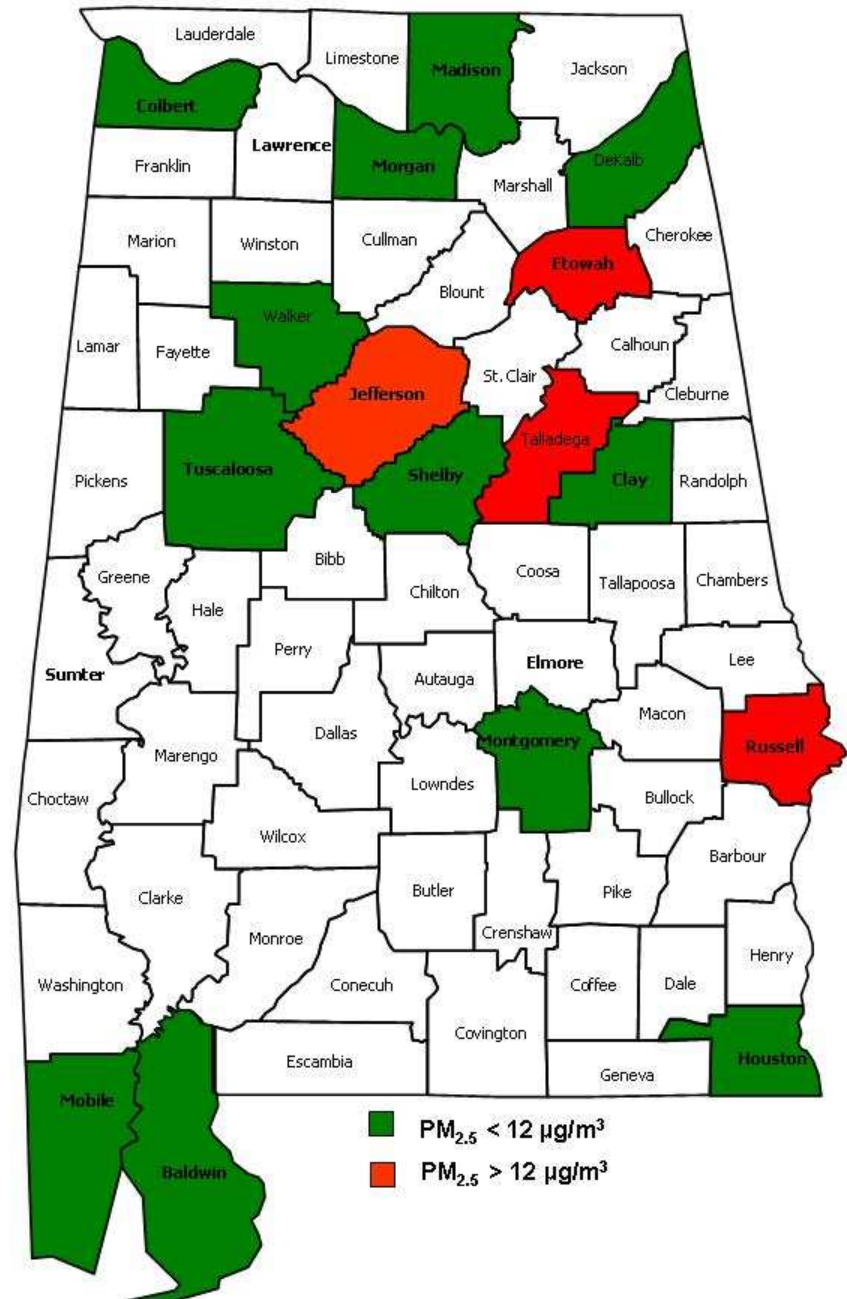


- Attainment plan has been submitted to EPA.
- Attainment plan requires:
 - Local emissions reductions.
 - Regional emissions reductions from CAIR and national mobile source controls.
- The plan projects attainment beginning in 2012.

- EPA is expected to tighten the standard to between 10 and 13 ug/m³.
- Proposal expected by November 2010.

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Counties Over a $12 \mu\text{g}/\text{m}^3$ $\text{PM}_{2.5}$ NAAQS of $12 \mu\text{g}/\text{m}^3$ Based on Preliminary 2007-2009



- For 2007-2009 no monitor in the State exceeds the 24-hour NAAQS.
- 24 Hour NAAQS = 35 ug/m³.
- Jefferson (Birmingham) = 34 ug/m³
- ADEM will be submitting a request to EPA to redesignate the Birmingham area to attainment for the 24-hour NAAQS.

- EPA is expected to tighten the standard to between 25 and 35 ug/m³.
- Proposal expected by November 2010.

- Like ozone and PM_{2.5}, EPA is tightening standards
- Alabama will likely have some non-attainment areas
- Not enough monitoring to determine where yet

- EPA is constantly changing standards, mostly making them more stringent
- Attainment status can change due to new standards or to long-term weather
- In non-attainment areas, there are obstacles to constructing new facilities or expanding existing facilities which have high levels of air pollutant emissions
- -BUT, small-to-medium size emitters can construct and expand with no unique obstacles

- What matters is whether a particular county has been formally designated by U.S.EPA as a non-attainment area
- Must have a construction permit in hand before formal designation by EPA or permitting process must start over



Questions?

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